Distr.
GENERAL
UNCTAD/SHIP/646
29 July 1993
Original: ENGLISH

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
TRADE AND DEVELOPMENT BOARD
Standing Committee on Developing Services Sector
Intergovernmental Group of Port Experts
Geneva, 25-29 October 1993

STRATEGIC PLANNING FOR PORT AUTHORITIES

Report by the UNCTAD secretariat

CONTENTS

		Paragraphs
	Foreword	
Chapters		
I.	Introduction	1 - 19
II.	Review of strategies currently adopted by ports to obtain strategic advantage	20 - 52
III.	Elements of the strategic planning process	53 - 108
IV.	Conclusions	109 - 111
	Annex	
I.	Case study: The Port of Rotterdam	112 - 133
II.	Case study: The Port of New York and New Jersey	134 - 150
III.	Case study: The Port of Singapore Authority	151 - 171

GE.93-52871

FOREWORD

This report has been prepared following the recommendation of the UNCTAD Ad hoc Intergovernmental Group of Port Experts of 1990 to prepare a study on strategic planning in the field of ports. The purpose of this publication is to advise senior port managers, particularly in developing countries, on how to make the best use of the technique of strategic planning.

The investigation carried out by the UNCTAD secretariat found that a brochure entitled "STRATEGIC PLANNING - A guide for the Port Industry" was issued in 1988 by the American Association of Port Authorities (AAPA)*. This study has the following chapters: Overview, Initiation of the Strategic Planning Process, Steps in the Process, Participation in the Strategic Planning Process, Major Issues to be Considered in the Process, Maintaining the Strategic Planning Process.

Consequently it was decided to study and present strategic planning from a different angle, complementary to the one adopted by AAPA. This document has been written for the Port Manager rather than the strategic planner. In addition, three case studies have been carried out: The Port Authority of New York and New Jersey, The Rotterdam Municipal Port and the Port Authority of Singapore. Their cooperation was exemplary, especially in the present competitive environment where port authorities are usually reluctant to discuss their strategies. One may argue that especially when considering the size of these ports that the process is irrelevant to other ports located in developing countries. However, the process is beneficial for all ports large or small even if there are very few which have actually adopted and implemented a strategic planning process.

In Chapter One, which is an introduction, we will present the different types of port planning and the growing efforts aimed at market orientation. Chapter Two examines the issues of strategies and competitive advantage of ports as currently observed in all regions. In Chapter Three, the different elements and phases of the strategic planning process are presented. The Annex contains the three case studies.

---

* AAPA 1010 Duke Street, Alexandria VA 22314, USA

I

INTRODUCTION

A. Types of Port Planning

1. The confusion with regard to the purpose and value of strategic planning results from three factors. First, the concept of strategic planning has been developed for use by manufacturing industries. Its adaptation to service industries has been difficult because of the lack of a physical product which competes directly with other products. It is necessary to adapt this planning concept to the needs of the port industry which, like other logistics services, is concerned with the type and quality of service provided to individual markets. Second, strategic planning focuses on the requirements of specific markets. However, the demand by these markets for port services are derived from a demand for door-to-door logistics service which is itself derived from the demand for the products being transported. Therefore the markets may be composed of producers, consumers, wholesalers, retailers or traders of commodities, or the operators of transport services and providers of logistics services. Third, it is often difficult to distinguish the strategic planning process from the other planning activities performed by port management. The primary planning activities include:

(a). operational planning for the short-term allocation of the services and resources provided to individual port users,
(b). recurrent budgeting for the annual allocation of the port's resources to specific activities,
(c). capital budgeting for the acquisition of resources over a period of several years, and
(d). master planning for the development of port infrastructure for a period of one or more decades.

Strategic planning differs from these activities in its medium-term focus on the markets served by the port and the use of existing resources to increase the demand from these markets. The output of strategic planning is a series of strategies for achieving competitive advantage so as to achieve specific marketing and financial objectives. This approach differs from the tactical decisions which characterize operational planning and recurrent budgeting and the more visionary decisions which are incorporated into physical master plans.

2. There are also two planning activities which closely resemble strategic planning. Corporate planning involves the preparation of a multi-year plan to guide a port management's decisions concerning the development of the different business activities of the port. Market planning produces a plan for the type of service to be provided to specific markets and the methods for promoting these services. Both focus on competitive advantage and will produce strategies. The former tends to focus on what the corporation is capable of doing while the latter looks at what the market requires. Strategic planning attempts to bridge the gap by focusing on what the corporation is able to do to meet the requirements of the market.

Planning Horizon

3. Port management is typically involved in a variety of planning activities which focus on the use of resources to serve the needs of users. These can be broadly grouped into short, medium and long-term planning efforts. Short-term planning tends to be tactical. Medium-term planning focuses on strategic issues. Long-term planning is more visionary. A graphical representation of the time horizons of the various planning efforts is shown in Figure 2.

4. In order to clearly distinguish among the three categories, it is important to understand the differences in:

(a). the situations requiring this type of planning,
(b). the types of information used, and
(c). the outputs produced and the benefits to be obtained.

5. Short-term planning efforts involve the current allocation of the port's facilities, equipment and manpower to meet the needs of the vessels and cargo in the port. This planning is in response to the short-term needs of the port users. The information used includes requests from ships' agents and the status reports relative to the port berths, equipment and storage areas. Typical outputs are the daily assignments of labour and equipment, the daily or weekly berth assignments and the weekly or monthly maintenance schedule. The goal of this planning is to insure efficient cargo-handling operations, rapid vessel turnaround, and reasonable levels of utilization of equipment and facilities.

6. Long-term planning, generally included under the rubric of master planning, concerns the development of facilities and acquisition of equipment to handle the future demands for port services. Since new facilities require time to develop and have a useful life of several decades, the long-term planning horizon is 10 to 25 years. This planning activity analyzes the current trends in the types and amounts of vessels and cargoes served by the port and produces a forecast of future demand for port services. Although this planning includes a financial component, its basic, and arguably its most durable, output is a physical plan for the development of the port infrastructure. This activity tends to be performed by planning groups. The plan is forwarded to senior management or the appropriate ministry for approval. Long-range planning is particularly useful where there is strong growth in traffic and fairly predictable trends in the demand for individual services. It is essential where there are a few dominant businesses but relatively little competition. To facilitate future port extensions, it is also essential to undertake appropriate measures such as land acquisition or control at the proper time.

7. The medium-term planning activities are of two types, financial and strategic. Financial planning is concerned with adjusting to the potential changes in costs and revenues by changing resource allocations for serving the projected demand. It is performed each year as part of the annual budgeting cycle. This activity extrapolates from the revenues and expenditures of the previous year and makes adjustments where major changes are anticipated. It is done with varying degrees of sophistication in all ports, regardless of their size and the markets they serve. The budget and the subsequent comparison of actual and budgeted revenues and expenditures are used as mechanisms for controlling costs, revising port tariffs and managing cash flow. The budget includes not only recurrent costs but also capital expenditures. In the more capital-intensive ports, capital expenditures are included in multiple-

year budgets which are updated yearly. In less capital-intensive ports, the capital budget is contained in the master plan as a multiple-year investment schedule.

8. Strategic plans are prepared every two to five years but reviewed on an annual basis. In these plans, existing port resources are allocated to different activities in order to meet specific marketing objectives. Both financial and strategic planning focus on the allocation of the port's existing resources as well as on the resources to be acquired in the medium term. However, financial planning assumes relatively stable market conditions, whereas strategic planning assumes a competitive environment in which the allocation of resources will affect the demand. A strategic plan may include a limited amount of capital investment, but the primary focus is on the use of existing physical, financial and human resources.

9. Strategic planning requires senior management to anticipate and, where possible, direct change. Objectives must be formalized and the changes occurring in the internal and external environment assessed. The process begins with a review of existing market trends and an analysis of the sensitivity of individual markets to changes in the price and quality of services provided. It then examines the organization's strengths and weaknesses and encourages positive action rather than reaction. Next, strategies are developed to modify these market trends and achieve specific goals related to future market share or traffic volume. Management must then select from among the possible strategies, implement those which are selected, evaluate their success and, where necessary, select and implement complementary or alternative strategies.

As part of strategic planning, port management must consider questions such as:

(a) Should the port develop general-purpose or specialized facilities?

(b) Should the port diversify into other businesses, such as specialized bulk handling and storage, trans-shipment or distribution?

(c) Should the port focus on generating employment through promotion of trade, and, if so, what should be the role of the central government in covering the cost?

(d) Should the port lease out facilities and if so for what period and under what conditions?

(e) Should the port change from an operating to a landlord authority, and if so, should the whole port be privatized or only some of its businesses?

(f) Should the port revert to an operating status in order to meet the demand for efficient common-user services at a reasonable price?

B. The Growing Market Orientation of Ports

10. Over the last three decades, the level of competition in international trade has increased dramatically. There has been growth in the volume of trade and an increase in the diversity of exporters and importers. The complementary development of port facilities and intermodal services has created greater competition among ports and between water and other modes of transport. Port managements have become less complacent as their portion of captive cargo has diminished. Former state monopolies are now confronted with an environment in which the user has a much greater say in the operation of the port.

11. Port management has become more client-oriented as a result of the increase in competition and the expansion of the role of the private sector in port activities. There is more concern about pricing policies and market share relative to competing ports. Management is also giving greater attention to the type and quality of services provided as it struggles to attract new business while maintaining existing business. Performance is monitored to determine the level of service port users are receiving. Changes in operations are made in response to pressure from port users rather than due to the internal decisions of the port. Prices are set in consultation with port users rather than by executive fiat. Investments are made in response to the requests or proposals of port users rather than the master plans prepared by foreign consultants or the port's engineering department.

12. Port management no longer treats the markets it serves as exogenous. It is gradually moving from a mode of reacting to changes in the market place to one of promoting changes favourable to the port. Demand for port services is considered subject to manipulation by lowering prices, improving the quality of services and providing specific services for users. Efforts to promote or discourage individual markets are now being adopted. As a result, ports are collecting more marketing information. Traditionally, port marketing was limited to sales and promotion. Information was gathered from the daily interaction with existing port users and visits to potential port users. Now marketing data is being actively collected[1].

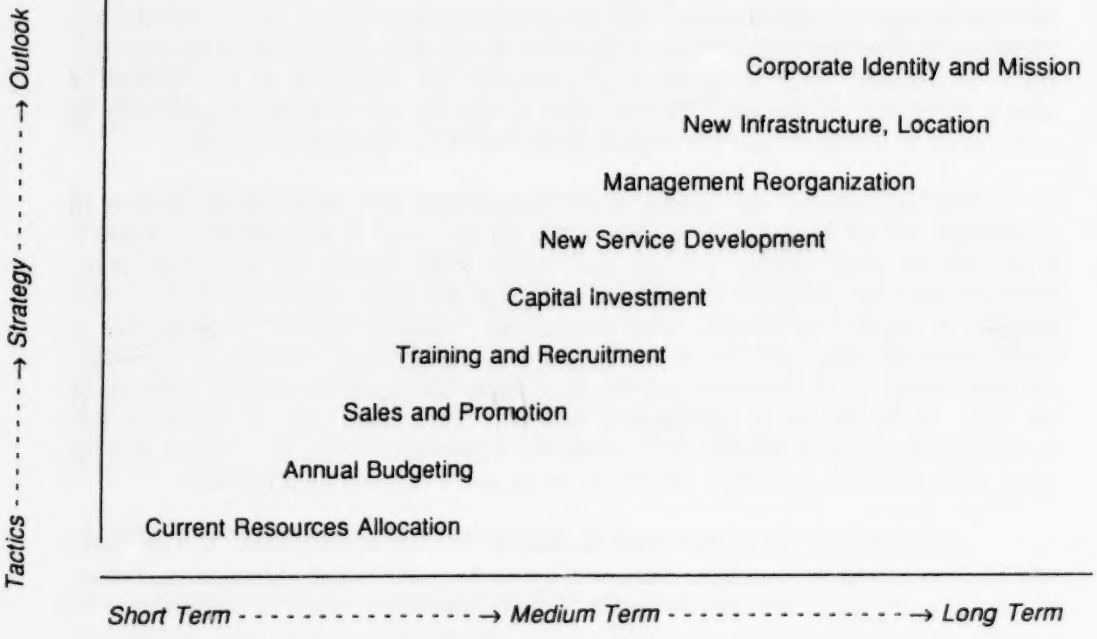
13. The larger ports have established formal marketing departments. Ports with established commercial departments have augmented their traditional sales and public relations activities with marketing research and promotion. Traffic levels in competing ports are being recorded and, in some ports, relative market shares are being calculated. Informal interaction with port users is being complemented by formal surveying activities to determine their future activities and requirements and the expected level of traffic. Data on the trade and economic performance of the port's hinterland are being supplemented with similar data for the port's major trading partners as well as for the region in which it competes. Trade missions and regional conferences are being used to gather data on new markets. In larger ports, foreign representations have been established not only to promote the use of the port but also to gather information on changes in the trade and transportation sectors of major trading partners. The increased interest in markets is reflected in the steady increase in the number of journals reporting on port activities and trade and their increasing regional orientation.

---

[1] On Port Marketing see also the UNCTAD publication "Port marketing and the challenge of third generation ports" (TD/B/C4/AC/7/14)

FIGURE 1

Scope of Port Planning Activities


Tactics - - - - - - - → Strategy - - - - - - - - → Outlook
Corporate Identity and Mission
New Infrastructure, Location
Management Reorganization
New Service Development
Capital Investment
Training and Recruitment
Sales and Promotion
Annual Budgeting
Current Resources Allocation
Short Term - - - - - - - - - - - - - - - → Medium Term - - - - - - - - - - - - - - - → Long Term

14. The awareness that the quality of service is an important factor in attracting traffic to a port has increased the attention given to monitoring berth productivity and utilization. This activity is important for all planning activities since berths are the principal resources provided by the port. The statistics required to monitor berth and overall port performance were identified and a formal and comprehensive system established in the 1970s.[2] Although performance statistics are included in monthly and annual operating reports of most ports and frequently used in the formal evaluations of new investments, these statistics are only occasionally used to develop and monitor improvements in performance. In some ports, management has selected a reduced set of statistics with which to control performance, monitor the quality of service provided to port users and guide investments so as to improve that quality. Increasing attention is being given to berth productivity relative to the port's competitors. Operating capacities are established based on user cost of congestion and delay as well as the physical capacities of the facilities and equipment. In container terminals, with an efficient transfer system, where handling rates are determined by the type and number of gantry cranes per berth, statistics on gross handling, as well as net handling rates, are used to compare performance among ports.

15. The role of port prices in attracting traffic has also received increasing attention as competition has increased. Comparative port pricing is widely used and becoming more sophisticated. Simple comparisons of individual tariff items between ports in the same region are being replaced with regional surveys of the total port charges for typical vessels calling at these ports. There is a growing awareness that the total cost of a port call which includes the cost of services provided through contracts with the private sector determines the competitiveness of a port. Earlier efforts to establish prices based on accounting costs are being revised to accommodate market considerations. The concept of using pricing to promote new business is widely recognized, as is the idea of collecting surpluses from profitable trades, but strategic pricing remains an informal process. The full range of strategic pricing choices has not yet been explored except in the largest ports. Sophisticated pricing techniques have developed in ports handling large volumes of trans-shipment cargo or providing integrated services for storage, processing or other value-added services for the cargo.

16. Strategic planning requires greater sophistication on the part of port management in the evaluation of market conditions, the estimation of capital and operating costs, the monitoring and improvement in the quality of service, and the setting of prices to attract additional cargo while meeting the port's financial requirements. In many ports this has created problems for management which lack the skills required for these types of activity. These skills are being introduced through training for managers and technical personnel, via programmes developed at five levels:

(a) training programmes organized within the port, often with technical assistance from lending agencies;
(b) national training institutes operated by the government;
(c) regional training programmes organized by the larger ports such as Singapore, Antwerp, Le Havre;
(d) international training efforts such as the programmes offered by UNCTAD, and
(e) study leave to pursue degrees at universities within and outside the country.

---

[2] UNCTAD publication "Manual on a Uniform System of Port Statistics and Performance Indicators", UNCTAD/SHIP/185/Rev.2, 1985.

17. Even with these advances the demands on port management continue to increase. Financial management must now deal with investments with costs ranging from tens to hundreds of millions of US dollars and with financing schemes which involve participation by local, national and international lenders, both public and private, and a dazzling array of debt and equity options. Marketing managers are confronted with a sophisticated and volatile world-trade market served by an aggressive and footloose logistics industry. Tariff analysts are confronted with a variety of port businesses for which prices must be set for different market niches in competition with other ports, and with logistics services which have greater flexibility in setting their prices. In summary, the demands placed on management by strategic pricing are no more nor less than those required as part of the effective management of a port.

18. As the competition among ports and modes has increased, port management has moved from a complacent attitude towards the market -typical of public monopolies - to a dynamic concern for improving market position, typical of competitive entities. This has lead to the development of a number of different strategies for establishing competitive advantage, some of which have been successful and others not. The next chapter examines some specific strategies which ports have employed over the last two decades to achieve competitive advantage. Many have arisen from practical necessity.

19. Although ports differ in their formal approaches to planning, all are involved in planning strategically. For small ports with only a few sources of traffic and no direct competition, the planning function is informal and largely reactive. At the simplest level, a port will prepare a daily work plan including berth and gang assignments. It will have a general plan for the location where new infrastructure is to be developed or where existing infrastructure is to be replaced. It will have an annual budget of costs and revenues for the port as a whole. It will have an *ad hoc* procedure for responding to the requests of its users for new or improved services while developing its prices in relation to the charges in comparable ports as well as overall financial requirements. For large, capital intensive ports operating in highly competitive and volatile markets, planning procedures are more formal, involving much more data collection and analysis, and are concerned with directing change rather than responding to it.

II

REVIEW OF STRATEGIES CURRENTLY ADOPTED BY PORTS TO OBTAIN COMPETITIVE ADVANTAGES

20. The purpose of strategic planning is to identify strategies and formulate objectives which, when translated into programmes and activities, will provide the port with a competitive advantage in its efforts to increase the traffic through the port. This increase can be accomplished both by increasing the market share of the port relative to its competitors and by increasing the market share of the port's users relative to their competitors. The process of strategic planning is important to ports because it specifically addresses the question of how to increase market share. However, instead of a formal procedure for strategic planning most ports have come to rely on *ad hoc* development of strategies. In the process they have also strengthened their abilities in areas such as marketing and pricing which are important components of strategic planning.

21. In the past, ports relied on their location relative to a specific hinterland to define their market. Their hinterland was treated as largely captive and the growth in traffic was determined by the growth in the productive activities in that hinterland. They ignored the issue of competition and focused on the provision of cargo-handling services to their captive markets. Today, the growth in the number and size of ports and the diversity of available routes and forms in which commodities are shipped have not only reduced the amount of captive traffic but also have created opportunities for expanding market share. For example, the increase in the size of vessels used on major trade routes and the growing importance of trans-shipment activities have created significant opportunities for handling cargoes which are totally unrelated to the economic activity of the port's immediate hinterland.

22. The increasing integration of land and water transport and the growing focus on total transport logistics has required many ports to revise their assumptions regarding captive markets and natural hinterlands. Ports which have no competing national ports have found themselves competing with regional hub ports for direct rather than feeder services. Operating ports have found themselves in competition with shipping lines, land-transport companies and local warehousing and cargo-handling companies for various services to vessels and cargo, including cargo-handling services. They also find themselves in competition for a share of the value added associated with transporting cargo from its origin to its destination. The growing volume and diversity of waterborne trade has lead to greater complexity in the provision of port services, while creating new market niches for both private and public sector competitors and stimulating competition among the various providers of transport and storage services in the door-to-door movement of cargo. The search for competitive advantage in these markets has thus intensified and the ports have had to adopt a variety of strategies in order to compete effectively.

A. General Strategies

23. The two general strategies which are used to achieve competitive advantage are:

(a) reduce operating costs so as to become the low-cost provider of port services and
(b) provide services which are distinct from those provided by other ports, offering greater value to the port user, and providing specific services for market niches.

A list of some of the strategies which fall in these two categories is shown in Box 1.

Box 1

SOURCES OF COMPETITIVE ADVANTAGE

- COST LEADERSHIP
  - Lower Port Operating Costs
    - Lower Cost Labour
    - Higher Productivity of Labour
    - Greater Utilization of Existing Assets
    - Less Expensive Facilities and Equipment
  - Lower Port Charges
    - Differentiation by Ability to Pay
    - Volume Rebates
    - Flexible Rates with Upper Limits
- DIFFERENTIATION OF SERVICES
  - Location
    - Proximity to Major Origins and Destinations
    - Proximity to Major Trade Routes
    - Connection with Road, Rail and Inland Water Transport
    - Size of Vessels Which can be Accommodated
  - Facilities
    - Dedicated Berths or Terminals
    - Specialized Cargo-Handling Equipment and Storage
  - Services
    - Cargo Consolidation and Processing Services
    - Services for Vessel Repair, Crewing, Provisioning, and Fuelling
    - Information Services for Vessel Planning
    - Information Services for Cargo Clearing and Tracking
  - Performance
    - Faster Vessel Turnaround
    - Reduced Cargo Dwell Time
    - Improved Customs Service
    - Simplified Cargo Documentation

24. Both strategies have a common goal of reducing the cost to the port user. The first accomplishes this by passing on some of the savings in operating costs to the users in the form of lower tariffs. The second accomplishes this goal by providing services which reduce the cost of moving cargo through the port. The port, acting as a provider of services to both vessels and cargo owners, can establish a competitive advantage by reducing its clients costs for transporting cargo. From the vessel owner's perspective this can realized through:

(a) faster vessel turnaround which reduces the cost of the vessel in port and the amount of time required to complete a voyage,
(b) lower port charges as a result of the reduced costs for vessel loading and unloading, and
(c) specialized facilities and services for larger vessels or special-purpose vessels that offer economies of scale and thereby reduced costs for transport.

From the cargo owner's perspective this can be realized through:

(a) more frequent sailings which reduce the total transit time,
(b) improved access to cargo-processing, storage and transport on other modes, and
(c) better coordination with and information concerning upstream or downstream logistics.

25. The two general strategies are in obvious conflict when consideration is given to offering a service which reduces the cost to the user but also increases the port's operating cost. In this situation, the effectiveness of the strategy depends on the net savings in the cost to port users after port charges have been increased to cover additional operating costs. Different port users will perceive the effects of these strategies differently. Shipping lines and charter operators will be responsive to any changes in average vessel turnaround time, port tariffs levied against the vessel, the costs of stevedoring, other private sector services required by the vessel, and the cost of loss or damage to cargo in the port (where the shipping line is responsible). Shippers and consignees would not be affected by these changes except where the shipping tariff has been adjusted in response to them. They would, however, be directly affected by any changes in port tariffs for storage or other services provided to the cargo, and the quality or range of services provided for storing and processing cargo. Intermodal transport companies would be affected by the tariffs and quality of service provided to both the cargo and the vessel as well as to the other transportation modes used to move the cargo to and from its origin/destination.

B. Sustainability of Competitiveness

26. The effectiveness of a strategy depends on the ability of the port to sustain the competitive advantage achieved through its introduction. This sustainability is based on two factors - the time required for a competing port to emulate that strategy and the rate at which the port offers subsequent improvements in service or price. Occasionally a strategy will offer a long-term competitive advantage. Where the access to a port is deepened to a level that competing ports cannot reach, a long-term advantage in serving larger, more efficient vessels may be realized. Development of a new site closer to the port's major markets or establishment of a rail or inland water connection with those markets may also provide a long-term competitive advantage. Multiple-year leases or franchises with major port users may provide a long-term competitive advantage in the handling of cargo. Finally, a long-term competitive advantange may result from investments in specialized equipment and facilities, if the market for these resources is to small to justify a comparable investment by a competing port.

27. Strategies which involve fundamental changes in the way a port does business will offer a competitive advantage which is sustainable for several years if these changes require a long time to be introduced. For example, a port may establish a competitive advantage by

downsizing in order to significantly reduce operating costs or by focusing its resources on specific niche markets and exiting less profitable markets. The competing ports may not be in a situation which allows them to adopt similar strategies or they may have to go through a relatively lengthy bureaucratic/regulatory procedure in order to implement the same strategies. Another such strategy is to increase the role of the private sector in port operations in order to improve efficiency or to obtain greater loyalty from the port users. However, the competitive advantage lasts for only a few years when competing ports are willing to respond function in a commercial manner.

28. Strategies for improving the quality of service through investment in equipment and facilities or rationalization of the use of existing labour and equipment provide a competitive advantage for a shorter period of time. Facilities require three to six years and sometimes more to plan and construct, whereas equipment can be procured in one year or less. Changes in operations and in the allocation of port resources require even less time for competing ports to emulate. In order to sustain the competitive advantage, it is necessary to continue improving the service or investing in order to remain ahead of the competition. The sustainability of the competitive advantage resulting from these strategies will increase as a result of economies of scale which can be achieved with larger volumes of cargo and more frequent vessel calls.

29. A typical period of sustainability for the various strategies is shown in Table 1. This table assumes that the competitors will adopt a similar strategy. In many cases, competing ports will not adopt the same strategy but instead introduce strategies which are better suited to their operating and financial capabilities and focus on their strengths as an organization rather than the strengths of their competitor. The following discussion is meant to demonstrate the diversity of strategies that have been applied. Some have been successful, some not, but together they represent the efforts made by ports to increase their market share, and that of their users, relative to their competitors. The effectiveness of these strategies is considered in terms of their effect on the users' costs and market share. All the strategies presented are taken from concrete cases. There is no doubt that with a more extended knowledge and implementation of the strategic planning process, failures in the strategic implementations could have been avoided.

Table 1
Sustainability of Competitive Advantage

Strategies	Advantage Provided	Estimated Time to Emulate (yrs)
Change in Corporate Identity and Mission	Overall Efficiency, Market Focus	3-5
New Site or Infrastructure	Increase in Capacity, Location	2-3
Management Reorganization	Overall Efficiency, Reduction in Operating Costs	1-2
Provision of New Cargo-Handling Services	Market Focus, Reduced Costs for Vessels and Cargo	1-2
Provision of Value-Added Services for Cargo and Vessels (not Cargo Handling)	Reduced Costs for Vessels and Cargo	1-3
Downsizing and/or Specializing	Market Focus, Reduction in Costs	2-4
Development of New Facilities	Increase in Efficiency, Throughput and Capacity	3-7
Acquisition of New Equipment	Increase in Efficiency, Throughput and Capacity	1-2
Free Trade Zone or Free Port Status	Market Focus, Reduced Cargo Costs	3-5
Improvements in Cargo Clearance	Reduced Delays, Increased Throughput	2-4
Sales and Promotion	Market Focus	1-3
Upgrading Labor Skills	Increase in Efficiency and Capacity	2-3
Reducing Labor Requirements	Increase in Efficiency	1-5
Increasing Equipment Utilization	Reduction in Costs	.5-1

C. Pricing Strategies

30. The most commonly applied strategy is to seek competitive advantage by reducing port tariffs. Most ports monitor the tariffs of other ports within their region in order to insure that their own tariffs are within an acceptable limit. Tariff revisions are usually made in order to increase charges so as to compensate for the effects of inflation on port operating costs. Methods are becoming increasingly sophisticated relative to accomplishing this without seriously affecting traffic. In addition, instances in which tariffs are being reduced in order to capture traffic are becoming more frequent. Even when tariff hikes are being introduced there is usually a comparison made between the port's tariffs and those of its neighbouring ports in order to insure that individual charges are not significantly out of line with the market.

31. This comparative pricing effort is not limited to ports which are direct competitors but often includes non-competing ports located in the general trading area of the port. In the past, it entailed simple comparisons of rates charged for individual tariff items. Now, there is growing interest in the comparison of overall port charges for typical vessels carrying an average amount of cargo with the results compared on a cost-per-ton basis. In a recent comparison of Central American ports undertaken in Nicaragua, analysts visited each port and prepared estimates of ships' bills based on both the published tariff and the average performance data for vessel and cargo turnaround. In another country, a comparison of charges for competing ports was carried out by obtaining ships' bills from vessel operators travelling to these ports. Their cost information included the charges for stevedorage and other services provided by the private sector. In some cases, this comparison has been extended to include the charges by private-sector providers of port-related services, but has yet to be extended to include the costs for vessels calling at the port.

32. Pricing strategies are now evolving for individual markets. Published tariffs are being designed in which rates are specified as maximums with various arrangements for lowering individual rates. The practice of levying charges based on the value of the commodity (wharfage) or the size of the vessel (port dues) is becoming less important as competition increases. New charges are designed based on the type of trade - e.g., trans-shipment, non-traditional export, bulk, containerized, cargoes in specific types of vessels, cargoes originating beyond a certain distance, etc. Pricing strategies are also being introduced to facilitate the commercial development of ports. For example, in two Latin American countries port tariffs are being revised to facilitate the transfer of individual port activities to the private sector and to encourage private-sector investment in cargo-handling facilities. While it is possible to develop pricing strategies which take advantage of the situation in individual markets, most efforts to adjust prices for competitive advantage must rely on the implementation of strategies for reducing the operating costs of the port or improving the quality of the services provided.

D. Strategies for Reducing Port Operating Costs

33. Strategies for reducing port operating costs have tended to focus on labour costs. In some cases, the reduction of labour has involved thinning of an over-staffed administration. In one Latin American country the Port Authority applied a policy of attrition for nearly two decades in order to reduce the work force by about 60 per cent. Despite this effort, the ports remain relatively costly and the average age of employees is quite high. Further cuts will be required due to the recent transfer of cargo-handling to the private sector in port activities. In other cases, such as Singapore, the reduction in labour has been accomplished through increases in productivity. Although an operating port, Singapore has reduced its work force over recent years while cargo volume has increased. During this period, labour productivity

has grown dramatically and excess labour has been transferred to other positions within the organization or into the expanding private sector.

34. The transfer of cargo-handling operations to the private sector has generally resulted in improvements in productivity at the same time that operating costs have been reduced. Even where a one-time cost has been incurred for terminating public sector employees, it has usually been possible to recover this cost in a relatively short time. The original agreement between the U.S. West Coast Longshoremen's Union and the shipping lines signed in the early 1960s stands as a landmark. Under this agreement, the shipping lines would contribute a fixed amount per container to the union for retraining workers in exchange for revamping work rules and reducing gang size. The result was a long period of labour peace and rapid gains in productivity. At the end of 1992 a similar agreement was signed between the cargo-handling companies in a Latin American country and the public stevedoring and longshoremen's unions as part of an agreement to privatize cargo-handling operations. In between there have been various arrangements made for reducing labour costs through early termination and changes in work rules.

35. Strategies for reducing operating costs have also focused on the use of high-capacity cargo-handling equipment. The 1970s observed a continuous expansion in the size and throughput of terminals for handling iron ore and other minerals. More recently, high-capacity conveyor systems have been introduced for handling fruit, bagged rice and other neo-bulk cargoes. For handling containers, improvements in gantry cranes, straddle carriers and transtainers have led to higher throughput rates and increasing automation in order to reduce the average operating costs for both capital and labour. The current strategy of one European port to develop a partially-automated container terminal represents a considerable extension of technology in order to achieve significant savings in labour costs as well as a better throughput.

E. Strategies for Reducing Port User's Transport Costs

36. When ports first become aware of competition, they tend to respond using pure pricing strategies in order to maintain or increase their share of the market. However, as their knowledge of the competition grows, the focus shifts to providing greater added value to the user by lowering the **overall** cost of transport rather than the price of port services. Strategies for reducing the port users' costs have focused primarily on improving berth productivity and thereby reducing average vessel time in port. This has been accomplished through a variety of means including rationalizing the use of cargo-handling labour by unifying stevedoring and wharf gangs, reducing gang size, reducing the amount of cargo handled directly, increasing the amount of equipment used by gangs, transferring larger units of cargo, reducing the amount of idle time, working around the clock and establishing more efficient shifts, etc. As a result, average annual throughput for break-bulk general cargo has doubled over the last two decades. In many cases, vessels have contributed to this improvement through more efficient stowage of cargo and better cargo-handling equipment.

37. The increases in container throughput rates have been achieved primarily through investment in new technology, especially crane technology, as well as better coordination of container-handling systems and equipment serving the cranes. The result has been an increase in average handling rates of 50 per cent over the last two decades. However, the importance of technology, rather than operators, in defining handling rates has resulted in ports not being able to sustain the competitive advantage achieved from faster cranes. Crane performance has become relatively uniform in most regions. The largest investments have been made in ports,

where terminal throughput is constrained by the size of the backup area as well as the speed of the cranes. Improvements in cargo-handling procedures have also been introduced in order to reduce the amount of cargo lost or damaged. These have been complemented by procedures to speed up cargo clearance and thereby minimize the amount of time spent in storage. A reduction in required cargo documentation has been implemented in a number of ports, while customs procedures have been liberalized to allow for clearance of intermodal cargo at their consignee's warehouse.

38. Many ports have chosen to compete through investment in equipment which not only allows faster throughput but also serves larger and more efficient vessels. In the 1970s, a number of ports in Southeast Asia attempted to capture the roro trade by constructing adjustable ramps. These are now of little use as roro vessels are now being outfitted with adjustable angled stern ramps. Massive investment in container-handling facilities in Arabian Gulf ports allowed some of them to capture a significant part of the trans-shipment traffic bound for the Gulf and sub-region, although a similar strategy at other ports was less successful. More recently, there has been a rush to obtain container gantry cranes capable of serving post Panamax vessels so as to achieve a competitive advantage for transhipment traffic involving these vessels. This competition has extended to medium-size ports, which are seeking to capture a larger share of the trans-shipment trade in the Caribbean.

39. Other strategies have focused on increasing added value associated with cargo moving through the port. One such strategy is to improve coordination with non-ocean transport. The greatest efforts on a large scale have focused on developing land bridges to build up traffic at either end. Proposals for land bridges have been developed for cargo movements between the Atlantic and Pacific across Panama and Mexico and between the South China Sea and the Andaman Sea across Thailand. There have been attempts to construct canals in order to provide better access to the port's hinterland, but the impact of these investments has been mixed.

40. Less costly strategies have focused on lowering the cost of coastal transport. For example, in one country, cabotage (coastal shipping) restrictions have prevented foreign carriers from moving boxes coastwise. This protectionism was reinforced by a relatively slow rate of investment in container equipment. Together these factors allowed a neighbouring port to become a sub-region's top box hub. When the government liberalized the rules applying to container traffic regulations, its competitor was obliged to rely more on efficiency and proximity to major trade routes to try to maintain a competitive advantage. Efficiency coastal transport has also been an effective strategy in one of the major hub ports of Asia, in its efforts to capture feeder traffic.

41. On a smaller scale, ports have upgraded their connections with railroads by providing rail-yard facilities within the port, by operating shunting locomotives to move rail cars within the port and by constructing rail lines at the terminals. They have also coordinated unit train operations in conjunction with national railroads and shipping lines. This latter strategy has proved extremely effective for US ports seeking access to midwest markets, for solidifying Pusan's advantage in container traffic for Seoul, for providing Port Kelang with access to new markets and for Penang to capture traffic. It was also an essential component of the strategy employed by the port of Halifax to become a container load centre port. CN Rail started double-stack rail services out of the port for container movements through Montreal and Toronto in August 1991, thus allowing the port to capture a significant part of the trade. The Port of Long Beach has taken advantage of its rail connections to increase its market share. Over the last decade, American President lines has increased its market share in many parts of the developing world by establishing an intermodal rail connection for its container cargoes and in the process giving the ports a competitive advantage.

42. There have been comparable efforts to upgrade connections to inland water transport in order to obtain a competitive advantage. One European port continues to rely on efficient barge movements on the Rhine to provide a competitive advantage relative to the other ports of Northern Europe while investing to improve that connection. In the United States, the decision on how far to extend the dredging of a 40- foot access had an impact on most ports, especially on the Mississippi River, where the competitiveness of all ports on the lower Mississippi was benefitted. In Pakistan, the deep-water channel to the port of Qasim in Pakistan was established for the movement of bulk cargo but was also used in an attempt to attract northern Pakistan traffic.

43. Improvements in road connections have been an important strategy for many ports. Perhaps the best known example is the development of the Northern Corridor for movement of goods between land-locked Malawi, Zambia and the port of Dar Es Salaam. This corridor, together with the special terminal facilities for transit cargo located at Dar Es Salaam, improved its competitiveness relative to the ports of South Africa. Similar strategy has either been implemented or is being studied and implementated in Western and Central Africa. The connection between the port of Calcutta and land-locked Nepal, together with the terminal facilities provided for transit cargo, offers Calcutta a competitive advantage. In Malaysia, the completion of the north-south corridor through the Peninsula and into Singapore will improve PSA's competitiveness in handling container traffic. Similarly, the eventual completion of the Pan-American Highway will boost the competitiveness of several Latin American ports. In Europe, the ports of the northern range located close to the main European highway and canal networks have a substantial competitive advantage.

44. A number of other value-added services have been introduced by ports attempting to establish a competitive advantage. For a long time, the provision of ship repair facilities was believed to make a port more attractive to the shipping lines; however, their impact was less than expected. Now these specialized facilities are considered as separate businesses rather than strategic tools for gaining a competitive advantage. The provision of bunkering services developed in a similar way with certain ports establishing a competitive advantage through low-cost, large-volume operations, but these had only a marginal impact on the competitiveness of the port with regard to cargo-handling operations. More recently ports have focused on providing better information services to vessels and cargo. Since most large ports have established EDI's in order to facilitate the movement of cargo, the competitive advantage has been reduced as competing ports have begun to offer comparable services. In fact, the attempt to develop unique services has negated the potential competitive advantage from integrating these systems.

45. Cargo storage has long been used as a strategic tool for increasing market share. In Puerto Rico, container terminals compete with one another through the provision of free storage for inbound cargoes. The result has been that consignees have not developed their own inland storage facilities. In West and Central Africa, specific warehouses or even berths have been offered to neighbouring land-locked countries to attract their transit traffic. In neo-bulk ports, storage for consolidation and long-term storage are essential to attracting traffic. The pulp and paper facilities in ports such as at Baton Rouge, Louisiana and San Vicente, Chile provide low-cost storage in order to compete for these cargoes. For the trade in wood products, ports such as Penang, Malaysia, Mobile, Alabama and several African ports have established special storage facilities in order to attract these cargoes. Competition for the import automobile trade has been determined largely by the ability of ports to provide large open areas for storing automobiles. The ability of ports such as Baltimore, Maryland and Antwerp to provide these areas has allowed them to increase their market share substantially. Specialized storage facilities have also been used to attract cargoes. Refrigerated storage was

established in several ports to capture the fruit trade which would otherwise have gone to other ports. However, the tendency to use refrigerated containers for meat products and fruit has required many ports in Central America to shift from refrigerated warehouses to storage areas for reefer boxes while expediting movement of these boxes through the port.

46. The importance of efficient storage has lead Northern European ports and other large ports of Asia to extend their activities into the development of warehousing services. One of these ports has established a subsidiary for container depot operations and building up container trucking capabilities. The subsidiary has diversified and expanded its activities to include intermodal transportation, container storage, repairs and refurbishing, warehousing, local and regional distribution, freight forwarding, customs documentation, port and terminal services, etc. in order to provide total distribution service. A similar philosophy is applied in Europe and North America.

47. Another strategy which has become popular throughout the world is the development of Free Trade Zones and Free Ports. The effectiveness of this strategy has been mixed. There are several successful Free Ports which have developed substantial port activity as a result of their status. Among the more successful Free Trade Zones that have contributed to the development of their adjoining ports are those in Kaoshiung, Taiwan; Colon, Panama, and Puerto Cortes, Honduras. However, in other areas, production activities in the Free Trade Zones have progressed relatively slowly. In many countries these zones have developed a significant level of industrial activity.

48. While most public ports function as common user facilities, some have adopted strategies which involve greater specialization. For example a port in the USA, after several years of trying to attract container cargo to its single-crane facility, decided to concentrate its core business on being a bulk port. Another port has established a free trade zone to promote the use of the port by offering importers the opportunity to delay payment of customs duties until their cargoes are sold. In Asia, a major hub port has for years diversified into businesses only loosely related to the port. They are now refocusing on their core business of serving the maritime trade. In Central America, one port split off its regional development activities (which were mandated by the government) from its port operations so as to allow the latter to concentrate on improving the efficiency and financial performance of the port. In another, the national port system is being divided into those which have significant cargo-handling activities and those which serve passenger and local cargo traffic. The latter are to be turned over to municipalities while the former will be made more efficient through involvement of the private sector.

49. The provision of value-added services has become an increasingly important issue not only for establishing a competitive advantage in terms of traffic handled but also in terms of benefits which the port and surrounding community derive from activities within the port. Several northern European ports, which developed sites for industrial activities so as to promote employment, have now re-oriented their strategies to focus on clients which will add to overall economic development. In Asia, one port faced with labour-shortage problems has also focused on services which provide greater return to the economy.

F. Expanding the Role of the Private Sector

50. One of the more popular strategies for gaining a competitive advantage is to expand the role of the private sector in port operations. The transfer of cargo-handling operations has already been mentioned, and there are other considerations regarding the transfer of both

business activities and assets from the public port to private operators. The decision on private-sector involvement is fundamentally a strategic one, concerning two questions:

(a). How to reduce the costs of port users and;
(b). How to insure that the port is at least as well off financially after the transfer as it expected to be without the transfer.

The basic strategic issues to be considered are listed in Box 2. Because of differences in the markets served, the assets provided and the underlying cost structure, a number of different strategies have been developed.

Box 2

Benefits and Risks When Increasing the Role of the Private Sector

• BENEFITS

o IMPROVING MANAGEMENT

- labour negotiations removed from political arena
- political/bureaucratic limits on operations eliminated
- sufficient compensation provided to attract good managers
- incentives provided in the form of promotion and bonuses
- more efficient and cost-effective maintenance
- increased industrial management expertise
- market-oriented pricing introduced

o REDUCING PORT LIABILITIES

- responsibility for safety of cargo
- responsibility for safety and health of labour
- responsibility for damage to structures

o PROMOTING THE PORT

- marketing responsibility transferred to partners
- long-term investment in the port encouraged

o REDUCING BUSINESS RISK

- private-sector equity participation encouraged
- long-term contracts signed
- risk shared with private sector

• RISKS

o Establishment of a private monopoly

o Priority given to corporate goals over public service objectives

o Loss of control of port infrastructure development

G. Decentralization, autonomy and accountability

51. In order to increase the efficiency of their port system and to foster its development, certain countries have adopted the strategy of reorganizing their public ports and introducing modern principles in their management. The basic concept is to motivate staff by decentralizing managerial functions, along with an increased autonomy of basic production units. Such a process requires the involvement and support of all the port staff, which cannot be obtained without awareness campaigns and systematic staff involvement in decision-making. In parallel with decentralization and increased autonomy, there is also a need to introduce the accountability concept, so that the heads of units or departments who receive more managerial powers are also more accountable for their acts. For instance, this may be accomplished through salary incentives for those who are successful.

52. Such a strategy has been adopted in several African countries with different modalities. In some countries, Côte d'Ivoire and Senegal for instance, the statute of the public port authority has been changed to become more autonomous and closer to current statutes in the private sector, although the port remains under public ownership. In other countries, namely Morocco, the "Office d'exploitation des Ports, (OPEP)", a public entity responsible mainly for the operation of the ports has been successfully reorganized by implementing the basic principles of decentralization, autonomy and accountability. A full report on such a positive experience has been produced by UNCTAD.[3]

---

[3] "Port administration and organization. A noteworthy experiment in Morocco" (UNCTAD/SHIP/627).

III

ELEMENTS OF THE STRATEGIC PLANNING PROCESS

53. The modern concept of strategic planning was introduced in the mid-1960s. Large private corporations began using this procedure in the 1970s as a tool for structuring corporate activities. The port industry did not adopt this tool until the 1980s when interest grew within the port community of the United States, Canada, Australia and Europe. While many ports have developed strategic plans, relatively few have gone on to establish a permanent strategic planning function within their organization.

A. The General Process

54. Strategic planning is a systematic and continuing process by which an organization determines its mission, direction and activities. The process involves the preparation of a formal document which identifies the organization's long-term outlook, formulates its medium-term objectives and strategies and guides the implementation of these strategies through its business planning activities. The mission is contained in a broad qualitative statement of what the organization wants to be in 15 to 20 years. The objectives are presented as a series of targets, quantitative where possible, established by the organization in order to move towards the goals set out in the mission statement. The strategies are a series of alternative courses of action which it is believed will enable the organization to accomplish these objectives. These actions focus on the allocation of the port's human and financial resources.

55. The strategic planning process involves six basic elements as shown in the flowchart in Figure 3. First there is the formulation of the corporate mission which addresses the basic purpose of the organization and reflects the outlook of senior management. Since this statement is meant to guide the progress made by the organization, it must be general enough to survive changes in management and in the markets served by the port.

56. Once a mission statement has been developed, the market situation is examined. This begins with a definition of the businesses of the organization, its markets, clients, and competitors. The markets currently served are examined to determine opportunities for increasing market share as well as for threats to existing market share from competitors. Markets not yet served are studied to determine their potential for generating new business. The organization then develops strategies aimed at obtaining a competitive advantage.[4]

57. The next phase of the process is an evaluation of the strengths and weaknesses of the organization relative to its competition. The organization's abilities depend not only on its physical assets but also on the skills and experiences of its management and labour. Strategies for improving the quality of organizational management and assets can then be developed to exploit strengths and overcome weaknesses.

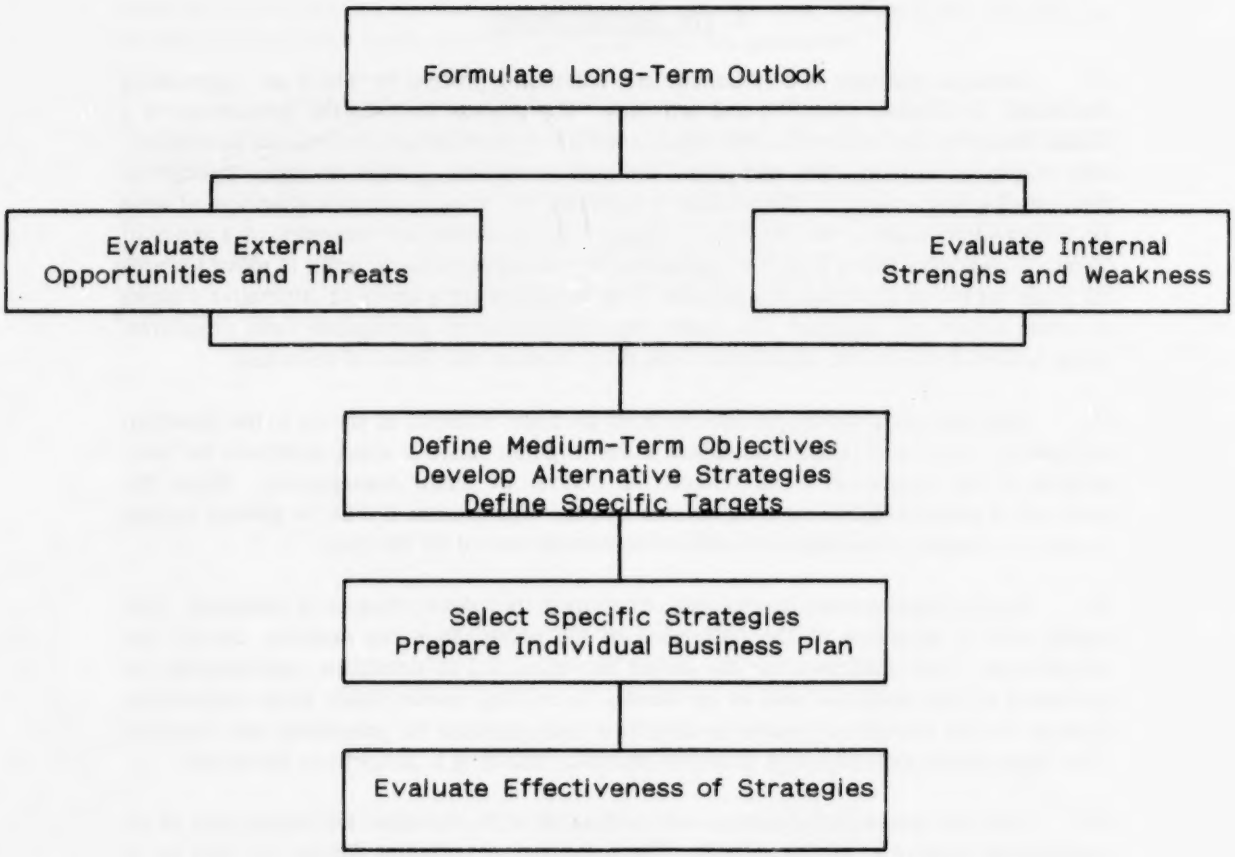
58. Based on the results of the two evaluations, offensive strategies can be developed to sustain or increase market share in existing markets and to establish a significant presence in new markets subsequently developed. Defensive strategies can be mapped to avoid loss of market share as a result of competitors' actions and strengths. These strategies are selected for implementation based on their expected cost and effectiveness. This selection is then

---

[4] The issue of competitive advantage as a part of strategic planning has been explored in some detail in the writings of Michael Porter, for example, Competitive Advantage : Creating and Sustaining Superior Performance, 1985, The Free Press.

presented in a formal strategic plan approved by senior management. The selected strategies are then incorporated into the action plans for each of the businesses along with a schedule for their implementation. Since the strategies are designed to be implemented over several years, strategic planning is only undertaken once every three to five years, although it is updated annually.

FIGURE 2



Actual performance is evaluated more frequently by comparing it with targets to determine the success of these strategies. This review is conducted in order to gauge not only the effectiveness of the strategies but also any changes in the markets being served and in activities by competitors.

B. Setting objectives

59. The setting of objectives is the beginning and ending point of the strategic planning process. Without them, it is impossible to formulate strategies. They will become a meaningful part of the strategic planning process only if top management is involved in their formulation and institutionalization. There are three levels of objectives corresponding to their time frame and scope:

(a) Mission statement (or purpose) - for the long term at the organisational level.
(b) Objectives - for the medium or short term, at the organisational division/department level.
(c) Targets (or sub-objectives) - for the short or medium term at the unit level.

C. The Mission Statement

60. The formulation of a mission statement serves two important purposes:

(a). to define the role of the organization thereby orienting its development;
(b). to provide a basis for coordinating decisions, establishing priorities and building consensus among decision makers.

This statement provides a broad description of the services to be provided in the future and the markets to be served. It defines what the port as an institution seeks to become over the next 20 years. Although the resources of the organization and the environment in which it operates will continue to change, the mission should remain relatively unchanged. The formal statement is less important than the port's sense of purpose, identity and direction. With the growing importance of the global marketplace and the increasing competition among modes and ports, the sense of purpose and direction is critical to establishing a competitive advantage in those markets in which the port seeks to operate. Some of the issues addressed in the mission statement are shown in Box 3.

Box 3
Issues to be Addressed in a Mission Statement

- Future role of the port in the logistics chain of domestic, regional and international trade
- Markets in which the port will compete
- Desired status of the port relative to its competitors
- Service obligations to the general public
- Complementary and competing port functions of the public and private sectors
- Form and function of the organization
- Guiding principles for physical and financial performance

61. Past experience indicates that these statements can range from a simple statement of purpose intended primarily as a public relations effort to a carefully drafted statement of objectives. It may reflect a radically different future but most often it presents an extrapolation of current reality. It may be a product of pure leadership vision but more often it reflects both some political compromises and some concessions to differences of opinion within the management.

62. Despite the relatively general content of those statements, especially when they are intended for public distribution, they do provide important insights into the direction in which the port expects to develop. Consider, for example, the following two mission statements. The first is from a large port which operates primarily as a landlord. The second is from a national authority responsible for the administration of a mix of large and small ports.

(a) Port mission statement:

> "The mission of the port as a service-oriented organization is to develop and manage property and provide the services required to promote and accommodate maritime-related commerce, fisheries and recreation, as well as industrial and commercial activities, and to do so on a self-supporting basis by generating sufficient income to maintain the health and growth of the port for the benefit of the public".

(b) Authority mission statement:

> "The Authority is committed to implementing an integrated program for the planning, development, financing, and operation of ports or port districts to ensure the smooth, safe, and economical movement of goods and passengers as a means of promoting trade. The Authority shall place a premium on the welfare and satisfaction of its employees by providing them with adequate training, incentives and benefits within corporate resources. In carrying out its operational and developmental concerns, the Authority shall utilize its income without subsidy from the national government"

63. At first glance, the basic precepts in these statements appear to be acceptable to most ports. However, each statement reflects some very real choices as well as some major omissions. For example:

(a) The port, although a landlord port, maintains the option of providing services directly to the port users. The Authority's role is to develop and operate the ports under its control. In fact, an increasing number of its port services are being transferred to the private sector.

(i) The fundamental role of the port in the future is the most difficult to anticipate. Most mission statements will reflect the current role with some extrapolation. It is particularly difficult to present a truly visionary statement even when the mission statement is not a public document. Neither of these statements addresses the growing role of the private sector. The long-term choices for a port include whether or not to participate in operations, construction and financing of facilities and infrastructure, information processing, land ownership and development, trade facilitation and economic development. While it is not realistic for the mission statement to provide a definitive choice among these options, it should determine the direction in which they will lead.

(b). The port chooses to service a full range of maritime-related activities rather than focusing on selected businesses. The authority appears to limit itself to movement of goods and passengers.

(i) Most ports are reluctant to limit their options over the long term. Therefore, the mission statement will generally present the broadest view possible of the port's range of business activities. The hard choices about which services to provide and which markets to serve are left to medium-term strategic decisions. However, it is important to provide the organization with a sense of direction regarding the scope of future activities and markets.

(c). The port will "promote and accommodate" maritime-related commerce and other activities. The authority is more focused on seeking to "ensure the smooth, safe and efficient movement of goods and passengers".

(i) Both statements refer somewhat obliquely to the basic objectives which will guide these activities. The problem with being too general is that no guidance is provided. Some mission statements are more focused on providing services which minimize the costs of the port's clients and/or maximize the value to the user. These may refer directly to providing efficient, safe and effective services for port, coastal and marine-related activities or simply to being responsive to the needs and requirements of stakeholders. The problem with being too specific is that current priorities tend to be emphasized rather than long-term, sustainable commitments. Current priorities may relate to medium-term market objectives or current public pricing issues, whereas more sustainable commitments relate to efficiency and quality of service.

(d) Whereas the port does not mention any specific priorities other than providing services to the clients, the authority includes a priority for the welfare of its employees.

(i) Social objectives which are complementary to the primary business objectives may also be given priority in mission statements. Specific areas of concern include the environment, safety, economic development and other social issues. Environmental concerns can include not only environmental protection and mitigation of deterioration in the environment but also sustainable-development issues. Economic issues may focus narrowly on the number of jobs associated with port activities, even though this policy has generally been deleterious to the efficiency of the port, or they may address the broader concern of maximizing value added for the port and its hinterland. Specific social concerns of the surrounding community may be included when they relate to a port's public-service obligations, which very often derive from the stated policies of the government or the ministry overseeing the port's operations. Even commercialized ports, whether publicly or privately owned, will give priority to issues of importance to the community, especially when the mission statement is a public document. Again it is necessary for the port to identify long-term concerns rather than issues requiring immediate attention.

(e). The port chooses to generate sufficient income to develop according to its perception of the public benefit. The authority clearly states that it will operate without subsidy but otherwise does not specify the purposes for which income is produced.

(i) Most ports will set some objective regarding financial self-sufficiency and the degree of autonomy and authority in financing capital projects. However, these objectives are rapidly changing due to the increase in the capital requirements of modern ports. The increasing role of the private sector has involved ports in complex financial arrangements involving the transfer of assets through lease and sale, the raising of capital in private capital markets, direct investment by the private sector, and the establishment of subsidiary companies and joint ventures to pursue specific port-related businesses. While these specific issues are dealt with at the strategic level, there is a need for a long-term outlook concerning the port's financial responsibilities and objectives.

64. A number of techniques are available for developing a mission statement. The technique which is most appropriate depends on the form of the organization and the status of the ensuing document. The basic distinction is whether the mission statement is for internal guidance or for external accountability. Where the mission statement is developed for use by the organization and is treated as an internal document, then it can be developed through the interaction of the port's senior management. Various consensus-building activities can be used such as formal committees, open-ended discussion groups or management retreats. Written communication can be in the form of formal proposals; otherwise papers may be drafted by the staff for discussion by management. External participants can be involved either as facilitators for promoting interaction and resolving conflicts or as management consultants who actively assist in defining the mission.

65. In the end, the choice of an appropriate mission is the responsibility of the head of the organization and it should be consistent with his or her outlook. However, the process for developing the mission statement should produce a common sense of purpose at least among senior management.

66. A mission statement becomes more difficult to formulate when it is to be a public document. Such a statement represents a commitment by the port to conduct itself according to certain principles and objectives, especially in its interaction with the port community. This type of statement requires a broader consensus. If the port already has a good understanding of the interests of the community from past interaction and has already incorporated local concerns in the objectives of the organization, then this statement can be developed internally and its format modified to be acceptable to the community. The result would be a more concise and general version of the internal statement. If, however, the port is unsure of the community's interests but must produce a public mission statement, then interaction with selected representatives of the community will be required either on a formal or informal basis. The port would retain responsibility for developing the mission statement, though the communities would be allowed to respond to the statement prior to its formal adoption.

67. The procedure for approving the mission statement will depend on the type of organization. Since the mission statement is brief and forward-looking, there is a limit to the participation in its formulation. In general, the chief executive of the port would prepare it in consultation with those directly under him in the organization. For port authorities and most commercial ports, this statement must be approved by the chairman of the port authority and the board of directors. For government ports, this statement must be approved by the minister or head of the agency responsible for the port.

D. Objectives and the sub-objectives or targets.

68. Unlike mission statements, which are necessarily expressed with some degree of uncertainty, objectives must be specific, accurate and applied to defined divisions, departments or units of the organization. Their time frame is generally the medium term, e.g., one year. They are usually linked to the function carried out by the port either for clients (external function) or for performing internal administrative and similar tasks. Examples of possible objectives are:

(a) To increase traffic of the container terminal by 10 per cent the next year.
(b) To reduce ship waiting time by 10 per cent the next year.
(c) To reduce the absenteeism rate by 30 per cent over the next six months.

The difference between objectives and targets (or sub-objectives) is that the latter are more specific and apply to a smaller unit of the organization. Normally, the targets or sub-objectives of a port unit are the components of the objectives of a larger department. For instance, assuming that the port is made up of 20 berths which have been clustered into four "production units" of five berths each, the productivity and self-sufficiency objectives etc., for the port as a whole will be directly dependent on the achievement of the corresponding sub-objectives assigned to each unit.

69. There are some basic rules to be followed in defining objectives. They must apply to all levels, from the manager to the worker of the division or unit concerned. They are generally interdependent and apply for a fixed period of time. Their numbers should be limited, with a maximum of five for each unit. If there are too many objectives, there are, in practice, no longer any objectives. It is advisable to concentrate on the vital points instead of trying to cover everything and finally being too vague. The definition has to be made between a slogan and a management objective. A slogan does not set any time limit for implementation, whereas a management objective must always incorporate such a time limit. Objectives must be specific and quantitative in order to facilitate carrying out the necessary measures, as well as checking and evaluating results. For management purposes, an objective such as "improved service quality" has little meaning. Whereas port management objectives are based on production norms, absolute figures such as tons of cargo and number of ships must be used with care. Comparative or relative figures are preferable, as for example: "This year's objective is to handle 10 per cent more transhipment traffic than last year". It is also possible to set objectives related to the competition such as: " to handle more coal traffic this year than the neighbouring competing port".

70. Another basic rule to be observed in setting port management objectives is to secure the understanding, agreement and support of all persons concerned. The establishment of objectives calls for teamwork. A procedure must be laid down that will permit all concerned to participate. Those in charge must explain in detail to the persons involved the requirements and the desirable environment for attainment of the objective, the connection between the objective and the development prospects of the organization, its employees, the port and the country/region. Difficulties that may be encountered must also be examined. It is only when there is general agreement on and gerferal support for objectives that they can be reached.

71. Objectives should normally cover the following fields:

(a)Marketing: With indication of prioritization; and emerging markets of interest.

(b)Operation: Efficiency from the point of view of port organization and port users. Equipment: availability, utilization, maintenance, accidents. Facilities: level of utilization, availability, etc.

(c)Financial: Degree of self-sufficiency for the organization. Degree of profitability for the various units. Cash flow to the payment of loans. Value added.

(d)Manpower: Numbers recruited, trained, leaving. Proportion of supervisors. Absenteeism. Accidents (number, frequency, gravity.)

(e)Environmental: Ratio/frequency concerning the degree of pollution, the number of accidents at sea, on shore, in the atmosphere.

Example of concrete objectives and sub-objectives can be found in the UNCTAD study for Morocco.* There is no good management of ports without objectives.

E. External appraisal and analysis of the environment (opportunities and threats)

72. One of the most important differences between strategic planning and other forms of port planning is its emphasis on evaluating the changes taking place in the external environment. This evaluation is used to identify areas of opportunity where the port has advantages over its competitors that have not been fully exploited. It is also used to identify areas where the port's position in the market is threatened by its competitors. This involves not only an analysis of market, economic, and competitive factors but also an assessment of the social, demographic, political, technological, and legal factors. The activities which are included in this analysis are shown in Box 4.

---

* Port Administration and Organization: a noteworthy experiment in Morocco (UNCTAD/SHIP/627)

Box 4

Tasks Involved in Evaluating the External Environment

- Market Identification
  - Determine Strategic Businesses, Their Markets and Clients
  - Identify Emerging Markets and Other Potential Markets
  - Classify Markets as Growing, Stable or Declining
  - Identify Major Clients in Each Market, Both Existing and Potential
  - Compute Market Share of the Port and its Competitors in Their Different Markets
- Assessment of the Port's Clients Value Chain[5] (Identify)
  - Classify Logistics Activities
  - Identify Inputs to These Activities
  - Identify Outputs to the Activities
  - Categorize Value Produced
  - Identify Port's Contribution to these Activities
  - Select Performance Measures to Quantify Value Provided by the Port
  - Determine Relative Values of These Performance Measures for the Port and its Competitors
- Technological Assessment (Identify Trends)
  - Vessel Size and Type
  - Cargo Presentation
  - Cargo Handling Equipment
  - Labour Productivity
  - Facility Design
  - Berth Productivity and Utilization
  - Land-Based Activities (Warehousing, Distribution etc.)
- Legal and Regulatory Assessment (Identify Changes)
  - Role of Government in Port Activities
  - Regulations Affecting Trade and Transport
  - Specific Regulations Affecting Ports and Shipping
  - Environmental Regulations Affecting Ports and Shipping
  - Safety Regulations Affecting Ports and Shipping
  - Workers Rights and Work Rules
- Social Assessment (Identify Concerns of the Port Community)
  - Port Operations
  - Port-related Noise, Pollution and Safety
  - Land Use
  - Trade and Transportation
  - Economic Growth

[5] The concept of a value chain considers the value provided by each separable activity in a process. The inputs and the outputs of each activity are used to determine the additional value of the output as a result of this activity. In this way it is possible to determine how the value added by each port activity can be increased.

73. The evaluation begins with a definition of the port's different businesses and the markets and clients served by these businesses. For those businesses involving vessel services, markets can be defined by the types of vessel and shipping service. The major clients are vessel operators and ship agents. For cargo-handling businesses, markets can be defined by commodity, cargo form, or trade route. Major clients are the shipping lines which call at the port, the shippers who move their cargo through the port and the inland transportation services which move cargo to and from the port. A port's most important clients are those who determine the routing of the cargo. For bulk cargoes this tends to be the owner of the cargo. However, if the owner is located some distance from the port, then inland transportation services may determine both the route and port. For container cargoes, liner services generally determine ports of call and therefore the routing of the boxes. However, for some ports, a few industries account for a majority of container traffic, thus determining the route and the port. In ports located far from the origin or destination of container cargoes, freight forwarders and NVOCC's may also play a major role in the routing of cargo, and so they become important clients of the port.

74. The port is part of the general logistics activity of transporting, storing and transforming cargo as it moves between the point of production and the point of consumption. It adds value directly by transferring, processing, and storing cargo and indirectly by reducing the costs for other components of logistics activity. For example, the greater the number of routes and modes from which the cargo owner can choose and the more efficient the transfer between vessels and these modes, the lower the potential costs of transport. The port also provides value to its clients though complementary services to vessels including repair, bunkering and stowage planning, cargo services such as long-term storage and specialized cargo processing, and to both, including document processing, information management and financial services. The provision of these services by competing ports should be evaluated in terms of the value provided.

75. Cargo and vessel traffic is forecast for the period that the strategies will apply. First, information is collected concerning the trade in different commodities and the traffic along different trade routes, and examined to determine the factors which affect future growth as well as the port's future market share. Information concerning major commodities and shipping lines serving the port's competitive region is summarized in Box 5. Next, traffic forecasts should be made not just for the port but for the competitive region as well, so as to include the traffic handled at competing ports and on competing modes. The current trend regarding changes in the port's market share can be extrapolated into the future assuming there will be no major changes in the strategies of the port and its competitors. The future market share should then be adjusted to take into account any significant market opportunities and threats. The gain or loss in market share would depend on the relative value that the port and its competitors provide to their clients.

76. Once the value added to the other components of the logistics activity has been evaluated, then a comparison can be made with the value added by competitors. This implies that berth performance and land transport costs should be included in the comparison along with traditional information on port charges and relative distances between competing ports and specific origins and destinations. The comparison should not be limited to existing markets but should also consider potential markets where the port has reason to believe it will have some competitive advantage. The evaluation would thereby identify emerging markets where the port could establish a presence as well as declining markets where there is a reduction in traffic due to overall demand rather than to a loss of market share.

77. Various techniques are available for collecting data on the value the port provides to its clients. Most ports rely on their accounting data and operational statistics to provide information on the amount and quality of services provided. The availability and accuracy of this information will vary depending on systems used to collect and analyze the data. This data can be supplemented by sampling cargo documents and vessel manifests, but this can require considerable time. Additional information can be obtained through the informal interaction of port personnel with clients, but the information is usually qualitative.

Box 5

Marketing Information to be Collected Concerning Major Port Clients

- Where Cargo Owners are the Major Clients
  - Major Producers and Consumers
  - Major Trading Relationships in the Region
  - Major Economic Factors Determining Volume of Trade
  - General Trend for this Trade in the Region of Competition
  - Expected Changes in Production or Consumption due to Investment
  - Any Factors Limiting Growth in Trade
  - Current CIF and FOB Values of Commodities and the Trend in these Prices
  - Sensitivity of Trade to Changes in Delivered Price
  - Financial Strength of Local Producers and Consumers

- Where Shipping Lines are the Major Clients
  - Shipping Lines Serving the Region of Competition
  - Recent or Planned Changes in the Type of Vessels Including any Changes in Voyage Patterns and Frequency of Calls for Vessels Serving the Region
  - Any Intermodal Arrangements Involving the Shipping Lines
  - Relative Market Share of the Shipping Lines or Their Consortium in the Port and in the Area of Competition
  - Costs of a Port Call Including Private Sector Charges and Vessel Time-Related Cost
  - Costs of Diversion to the Port and to its Competitors
  - Financial Condition of the Major Lines

78. The port's clients can also provide information about their own activities and those of their competitors. Organizations representing groups of clients can be especially helpful in this regard. For example, a shipper's council will usually collect data on regional trading patterns and the future outlook for specific markets. Shipping associations will collect information on vessel activity and utilization. Associations of manufacturers, producers or exporters/importers will have data on current and projected levels of local production and foreign demand for specific exports and local consumption of specific imports. Local associations of transporters may also have data on travel times, vehicle utilization, operating costs and published rates. When the port has established a good working relationship with its clients, this data can be obtained relatively easily but it is rarely available if there is an antagonistic relationship. Competitors can be a source of information (especially published information) on pricing, traffic levels and performance. Where a regular exchange has been

established between competing ports, additional information can be obtained as long as it does not touch directly on competitive strategies. These relationships may be initiated by the port directly or may result from contacts made at regional meetings and conferences.

79. For emerging markets or markets in which the port is not currently active, external sources of information must be consulted. Numerous databases are maintained on trade and traffic patterns throughout the world. While these are generally consolidated on a country-by-country basis, they can identify markets in which a port is not currently active. Trade publications provide a low-cost and accessible source of information on regional trading and shipping activities, but will not be as focused in their examination of a trade or shipping activity. Where detailed information is required about a specific trade, it is possible to obtain information through consultancy services or from special databases maintained by participants in this trade.

80. Although information on the markets served is important not only for strategic planning but also for overall development, very few port managements have established formal marketing research activities. Many ports rely on their sales department to provide information on markets and clients currently being served by the port; the results, however, tend to include informal presentation of opinions and observations. Other ports rely on their Computer Departments to provide market-related information from their operations and accounting data but the results are limited in scope. Project-oriented market research is performed in many ports, though only occasionally and then for specific purposes. It is usually produced by a member of the Chief Executive's staff or the senior managers staff rather than an office in the port in charge of market-related services. What is needed is continuous market evaluation performed by a dedicated staff to produce both forecasts and regular information on new market opportunities as well as on the strategic actions of competition.

81. No matter what data is collected, there is usually a problem with getting this information analyzed and disseminated to the proper decision makers. The dissemination of marketing information varies with the type of information and the activities of the port. General data on financial and operational performance tend to be distributed as monthly printouts or pre-formatted reports, although the information tends to be used only for structured reviews. Project-related data is distributed to the requester but will not necessarily receive a wider distribution. Greater use of personal computers and distributed information systems will provide managers with access to databases and other sources of information, but it is still necessary to format the data in a way that is appropriate for their analysis. Because information on potential opportunities from and threats to competitive advantage is essential to strategic planning, it is important that the port continually upgrade its marketing function along the general lines shown in Box 6.

82. The monitoring of changes in the external environment should extend beyond trade and traffic to include changes in technology, regulations and public policies which impact on the port's competitive position. The monitoring of technological change should include not only changes in vessels and cargo-handling equipment but also those pertaining to information management and other mechanisms for providing added value for the port's clients. The effects of technological change on the productivity and use of labour should also be monitored. This information is used to guide the port's investment in these technologies as well as to assess the threat of the introduction of new technologies by competitors. It is important that the impacts of technological change be considered not only by a port's

engineering department but also by those involved in evaluating the port's position in the market.

83. Legal and regulatory changes impact a port in a number of ways. They can effect national and international trade through modification of investment and consumption in addition to relations with different trading partners. Regulations can also constrain the way a port conducts its business. Of particular importance are the changing regulations affecting safety and environmental protection. The monitoring of legal and regulatory changes should extend to those which affect the port's competitors. It is the relative changes in regulations which will offer the port opportunities for increasing market share or else threaten existing market share.

Box 6

Steps Towards Strengthening Port Market Research

- Expand Range of Data Collected to Include Data on:
  - Regional trade
  - Competitor traffic
  - International trade, especially for trading partners
  - Economic performance for region
  - Economic performance for trading partners
  - Patterns of production and consumption for major commodities
  - Performance and costs of port and its competitors
  - Performance and costs of different modes of transport

- Improve Analysis and Dissemination by:
  - Automating collection of port data
  - Computerizing data analysis
  - Establishing a sales and marketing unit
  - Establishing a formal liaison with port clients
  - Establishing a separate market research unit
  - Producing market analysis reports on a regular basis
  - Establishing data-collection activities in major markets
  - Contracting research on new markets and services
  - Establishing sister-port relationships with trading partners
  - Establishing overseas agencies to collect data

83. Changes in public policies can affect the port either indirectly by affecting its clients or directly by affecting its role in the national economy. Policy changes can be favourable where they promote the development of the trade and logistics services which utilize the port. They can also be unfavourable where they promote the development of competing ports and routes or discourage investment in the port or limit its autonomy. The monitoring of changes

in public policy and regulations allows the port to contribute to the development of these policies and regulations. The information obtained by the port can then be used to provide information to government officials as to the ramifications of changes in policy and regulations on the competitive position and efficiency of the port sector and the port in specific.

F. Appraising the Internal Strengths and Weaknesses of the Organization

84. Evaluating the strengths and weaknesses of the port essentially focuses on the competitiveness of the port as an organization. Among the items to be evaluated are the physical assets available to provide services, the skills and experience of the port management and labour force, the financial condition of the port and the legal and regulatory constraints on the port. A summary of the principal sources of these strengths and weaknesses is shown in Box 7. Each of these should be compared with those of competing ports.

85. The assessment should be made in the context of the port's strategic business units[6] and their clients, markets and competitors. It should begin with a review of each unit's ability to:

(a) improve the quality of service provided to clients,
(b) develop new services to meet their requirements,
(c) achieve objectives and meet performance targets,
(d) adapt to new technology, and
(e) manage information effectively.

86. The assessment of the physical assets of the port and a comparison with the assets of competitors are the easiest and the most commonly performed evaluations. These assessments should consider the capacity of these assets together with their productivity and level of utilization. Specialized equipment and facilities can provide a port with an advantage in specific market niches. Alternatively, the lack of such equipment may limit the port to other market niches. If it is found that the port is at a disadvantage relative to competitors in the sophistication of the technology provided or the throughput rates, it is necessary to determine how important this fact is in the markets which the port serves. The options for strengthening the organization in this regard include not only investment in additional assets but also better use of existing assets.

---

[6] The orientation towards strategic business units is important not only for evaluation but also for effective management. These units have been used quite effectively in a number of ports. One outstanding example was the approach used in Morocco, where independent production centers were given financial responsibility for their activities but were also held accountable for their financial performance. Further details are presented in "Port organization and administration: a noteworthy experiment in Morocco", (UNCTAD/SHIP/627).

Box 7
Sources of Institutional Strengths and Weaknesses

- Location
  - With respect to Trade Routes
  - With Respect to Shippers/Consignees
- Assets
  - Access, Depth, Harbour
  - Types of Facilities
  - Specialized Equipment
  - Specialized Storage
  - Dedicated Berths
  - Available Capacity
- Experience with
  - Different Types and Sizes of Vessels
  - Different Types of Commodities
  - Different Forms of Cargo
- Manpower
  - Skills
  - Actual employment versus employment needed
  - Social climate
  - motivation
  - professionalism
  - contact with customer
- Performance
  - Utilization, Delay - Berths, Equipment
  - Cargo-handling Productivity
  - Labour Peace
- Adaptability, Resourcefulness
  - Handling Special Cargoes
  - Meeting Needs of Individual Customers
  - Accommodating New Service Requirements
  - Flexibility of Labour (Allocation and Work Rules)
  - Flexibility in Scheduling Equipment and Facilities
  - Ability to Contract for Services
  - Efficiency of Procurement and Contract Procedures
  - Simplified Documentation Requirements
  - Simplified Tariff and Billing Procedures
- Complementary Services
  - Cargo Services - Processing, Consolidation, ICD's,Dry Ports
  - Vessel Services - Bunkering, Ship planning, Ship Repair, Crewing
  - Logistics Services - Warehousing, Intermodal Connections x
  - Trade Services - Free Trade Zones
  - Financial Services - Banking, Trade financing
  - Information Processing - EDI, Cargo Tracking, Billing
  - Communications
- Financial Condition
  - Ability to Invest
  - Relative Access to Funds
  - Costs of Capital
  - Operating Cost Basis - Labour Costs

89. Manpower assessment considers management, staff and labour. For port labour, available skills and practical experience are important. Of equal concern are the human-resource management activities for upgrading labour skills and effective job placement, and labour relations with trade unions (absence of strikes). Support functions which have been provided by outside suppliers or could be provided in this way should also be included. For the staff, the assessment of capabilities can be supplemented by a formal assessment using turnover analysis, morale surveys, absenteeism reviews, personnel needs and availability of and access to management information.

90. Manpower assessment should primarily focus on how skilled managers are in responding to the requirements of their clients and the markets they serve. This evaluation must be carried out by the senior management but may also utilize outside consultants. The specific issues to consider are the abilities of managers to organize and implement new activities, to provide creative solutions to problems, to introduce new approaches to serving clients, and to work as part of a team. This assessment should consider whether each business unit's work is mostly routine or highly diverse and whether the workload is relatively constant or variable. As a complement, senior management should also evaluate its ability to identify and train management replacements as well as the effectiveness of its system for appraisal, promotion, and remuneration.

91. Assessment of financial strengths and weaknesses focuses on the ability of the port to invest in new facilities and equipment as well as in the renewal of existing assets. This should be done by preparing a 3-5-year cash flow projection to calculate the expected change in working capital and a capital investment budget to determine the average level of investment which the port will have to sustain over that period. The adequacy of the revenues generated under the current tariff structure should be evaluated together with the ability of the port to increase its tariffs to meet additional investment requirements. The financial assessment would indicate where already low prices and/or high costs restrict the port's ability to compete for additional traffic. It would also indicate the port's ability to invest in order to increase market share or enter new markets. The port should evaluate its access to capital through government funds in the form of loans or grants, loans from international and domestic sources, the issue of shares, bonds or other financial instruments, and concessions and leases which allow for direct investment by the private sector. While it is not possible to make a detailed comparison of the financial condition of the port's competitors, it is possible to determine the financial performance of these ports by monitoring their annual financial reports and their investment plans and major borrowings (assuming they are published).

92. The assessment of laws and regulations should consider not only current laws and regulations which affect the port but also legislation which is proposed or being debated and that would impact on port operations or finance. This review should consider both national and domestic laws which relate to the port. It should also take into account international agreements and conventions which restrict the way the port can do business or require the port to provide specific services. The growing importance of health, safety and environmental regulations calls for special attention. This assessment should be made by comparing the port's situation with that of its competitors. This comparison would identify differences in regulations which offer a competitive advantage. It would also identify differences in the level of compliance and the future investment required to comply with these regulations. The legal assessment would identify those laws and regulations which reduce the port's competitiveness and which the port should seek to have revised or eliminated. It would also indicate where the port should invest its skills and capital in conforming to new regulations as a means of increasing the quality of service provided to its users and producing a competitive advantage.

93. The purpose of these assessments is not only to determine the strengths and weaknesses of the organization but also to identify opportunities for exploiting these strengths and reducing these weaknesses. With respect to management and labour, the assessments would identify opportunities for the reallocation of management personnel and the revision of labour contracts so as to improve the quality of service provided by the port. It would also identify those capabilities and experiences which the port should promote in its efforts to capture market share and to enter new markets. The port would monitor similar efforts by its competitors to exploit their strengths and overcome their weaknesses. The output of these assessments would be a statement of the strengths and weaknesses for each business unit as well as for the organization as a whole. They should also result in a series of alternatives for taking advantage of the strengths while attempting to overcome the weaknesses.

G. Identification, Selection and Implementation of Strategies

94. Several alternative strategies for increasing the activity of the port would be identified during the assessment of the external and internal environments. These strategies are intended either to increase the port's relative share in specific markets or to increase the overall volume of trade and transport, when there are no competitors. They accomplish this by making the port more efficient in providing these services, increasing the value of the service to port users or introducing new value through complementary services. The strategies may be either offensive or defensive. Offensive strategies attempt to take advantage of opportunities in the market and/or the strengths of the port relative to its competitors. Defensive strategies attempt to counter competitive threats or overcome organizational weaknesses.

95. The basic categories of actions recommended in these strategies are:

(a) invest in new facilities and equipment
(b) reallocate existing labour and equipment
(c) upgrade the skills of port labour
(d) improve the condition of port equipment
(e) provide additional logistic services
(f) reorganize the way in which port services are provided
(g) reorganize the management of port services
(h) contract out port services to other parties
(i) implement cost cutting measures including a reduction in labour
(j) provide financial incentives for management and labour
(k) lower prices or volume discounts

The strategies are developed to achieve specific objectives. Performance measures are identified to evaluate the success in achieving these objectives.

Box 8

Strategies to Take Advantage of Institutional Strengths and Overcome Weaknesses

- Facilities and Equipment
  - o invest in new assets
  - o renew existing assets
  - o improve utilization of existing assets
  - o increase productivity of existing assets

- Manpower
  - o develop services which take advantage of experience and skills
  - o allocate skilled personal to priority businesses and activities
    - reassignment of key personnel
    - secondment of key personnel
    - introduction of flexible task-oriented management
    - out-sourcing activities
  - o improve formal training by
    - additional staff time for training
    - better internal training capability
    - additional budget for external internal and external training
  - o provide performance-based remuneration and incentive pay
  - o improve human-resource management
    - skills assessment
    - performance evaluations
    - personnel matching
    - changes in work rules
    - indemnization of excess labour
  - o establish quality circles

- Financial Condition
  - o access new sources of funds
  - o allow direct private-sector investment
  - o enter into joint ventures
  - o create commercial subsidiaries

- Regulatory Constraints
  - o monitor regulatory changes
  - o improve legal representation
  - o increase involvement in legislative and regulatory activities
  - o respond more rapidly to regulatory changes
  - o introduce measures to mitigate environmental damage
  - o provide specific environmental services
  - o take advantage of competitors' regulatory constraints

95. The process by which management defines and selects strategies will vary with the type of organization and the degree to which the strategic planning process is structured. The traditional method is to develop individual strategies on an *ad hoc* basis in response to specific opportunities, actions by the port's competitors or problems in the market or the organization that have become "critical". Information regarding the internal and external environment is limited to data acquired as part of normal management activity rather than as part of a specific planning process. Strategies are prepared through consultation among senior management and implemented through executive decision. The design of these strategies relies on personal judgement and sensitivity to market conditions. This approach reflects a management style which lacks a long-term planning capability or an environment which is changing rapidly.

96. A less crisis-oriented approach makes use of regularly-scheduled management meetings to review available information, organize the collection of additional data and prepare alternative strategies. This approach allows for a flow of ideas from the bottom up in the form of papers submitted for consideration at these meetings. This procedure can be very structured, especially in larger organizations, with a standard format for presentation and a regular schedule for selection. Very often management is guided by some type of corporate planning activity which identifies the general objectives and broad strategies, as well as the port's objectives. Corporate plans are typically prepared once every five years at a minimum, but strategic decisions must be made more frequently. The tendency is to place the design and selection of strategies on the agenda of regularly-scheduled management meetings. This approach has worked well in many ports and is, arguably, the most appropriate for the port industry. Just as annual budgets are meant to allocate financial resources, so strategic plans are meant to allocate scarce management resources. The demands placed on management time in order to implement the different strategies are cumulative. Therefore the decision to implement one strategy may preclude the implementation of others. The previous approaches lack a regular review of all strategies being implemented.

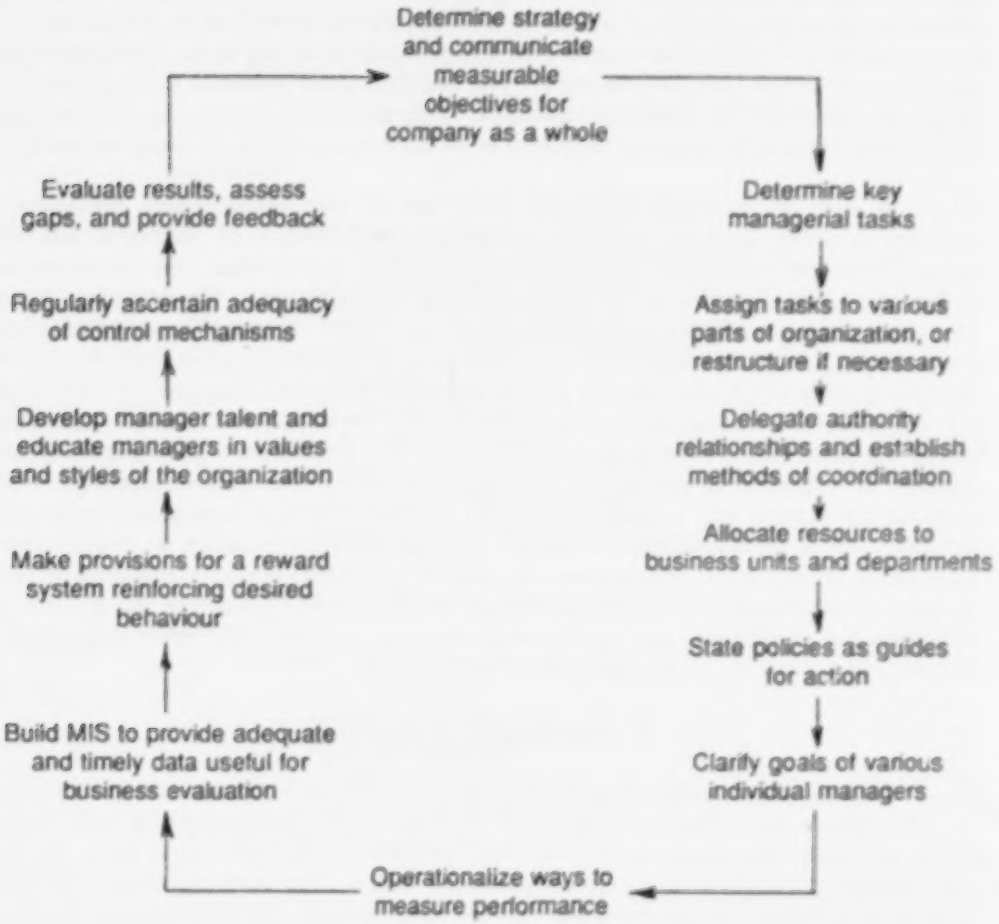
H. Implementing the strategies

97. Strategic planning must be under the direction of the senior management who oversees the development and evaluation of strategies. The choice of strategies must be made by the senior managers and approved by the chief executive. The plan must have the full endorsement and support of the port's governing board. The chief executive will have ultimate responsiblity for approving the strategic plan; however, a senior manager should be given responsibility for implementation of each strategy. Thus top management provides the outlook, but the responsibility for developing and implementing the strategies is found at a lower level, as shown in Figure 3. The specific delegation of responsibilities depends on the structure of the organization.

98. The involvement of the organization in formulating strategies is important for two reasons: the diversity of strategies considered and the extent of consensus achieved. If strategic planning is done solely by senior management, then there will be no input from those directly involved in port operations and marketing. In most organizations, senior management acts as a conduit both for ideas and data which are prepared by its staff. The staff can be used to evaluate the internal and external environment, to design alternative strategies and to gather and analyze data for evaluation. Often the staff prepares the background papers and formal strategic proposals. Diversity can be further nurtured by establishing inter-departmental committees at the staff level where these papers are prepared. Such committees can also serve as a useful training ground for future senior managers.

FIGURE 3

Strategic implementation process


Determine strategy and communicate measurable objectives for company as a whole
Determine key managerial tasks
Assign tasks to various parts of organization, or restructure if necessary
Delegate authority relationships and establish methods of coordination
Allocate resources to business units and departments
State policies as guides for action
Clarify goals of various individual managers
Operationalize ways to measure performance
Build MIS to provide adequate and timely data useful for business evaluation
Make provisions for a reward system reinforcing desired behaviour
Develop manager talent and educate managers in values and styles of the organization
Regularly ascertain adequacy of control mechanisms
Evaluate results, assess gaps, and provide feedback

Source: *L.R. Jaunch and W.F. Glueck; Business Policy and Strategic Management - Fifth edition; McGraw-Hill Book Company; 1988; page 307.*

99. Consensus regarding the strategies to be implemented is generally developed as part of the interaction among senior managers when selecting strategies. However, a more formal approach may be necessary to build consensus. Management retreats are a popular method along these lines. Outside consultants can be brought in when problems arise. Since the strategies are implementated at levels below senior manangement, it is also necessary for senior managers to develop a consensus among their staff with regards to the importance of these strategies and their underlying objectives. This can be done as part of the normal interaction between senior managers and their staff, or through more formal meetings and presentations. The size of the organization and the style of management (confrontational or consensual) will determine which is the most appropriate means for building consensus.

100. At the same time that strategies are identified, it is necessary to determine how they will be implemented. Responsibility must be assigned to a specific manager and a schedule for implementation must be developed. If the implementation involves investment, then this should be included in the port's capital budget. If it involves the reallocation of staff and labour, then a revised organization or staffing plan should be prepared. If it involves the reallocation of port resources, then management must identify the businesses from which these resources will be transferred. If training or recruitment are required to provide the skills needed to implement the strategy, then these skills should be identified. Where extensive changes in personnel are required, a revision of job titles and descriptions may be necessary. All of this information should be included in the strategic plan.

101. The implementation programme should be determined by the manager and presented in an action plan. The format of this plan will depend on the program's complexity, the style of management and the breadth of participation. It may take the form of a simple set of verbal or written instructions to subordinates or a detailed business plan which would include:

(a) a reiteration of objectives and performance measures,
(b) a series of discrete, phased actions to be undertaken,
(c) job assignments,
(d) inventory of resources required,
(e) detailed budgets and cash-flow projections,
(f) specific performance targets,
(g) reporting requirements,
(h) management structure, and
(i) evaluation procedures

102. The effectiveness of a port in designing and selecting strategies can be increased in a number of ways but the most important is by improving communications within the organization. The development of a formal process allows for broader participation. Improvements in the distribution of the results of market research and data on port performance allow for a broader participation in the development of strategies. Improvements in the flow of information from staff to senior managers result in greater diversity of ideas and need not limit executive decision-making. Similarly, better communications among business units and/or port departments provide a broader range of alternatives. Increased efforts by senior management to communicate strategic issues to their staff facilitate the development of strategies and the building of consensus.

103. Although greater sophistication in the strategic planning process is not necessarily a virtue, efforts to address strategic issues in a more analytic way usually benefit the port. Thus

efforts to divide the port into business units and separate users according to different markets provide greater insight into the potential effectiveness of alternative strategies. A simple, direct command structure is preferred but may not be appropriate where there is a broad span of control and inter-departmental cooperation. The complexity of the line of authority and management reporting requirements depend on the amount of participation.

I. Monitoring and Evaluation of Strategies

104. Monitoring and evaluation constitute the final phase of strategic planning. In this phase, senior management determines whether strategies have been properly implemented and effective in achieving the intended objectives. This evaluation must consider not only whether pre-determined targets have been achieved but also whether the internal and external environment have changed. The evaluation process requires that the performance measurements identified in the strategic plan be monitored. The effectiveness of a strategy should not be measured by the ability to achieve a specific target but rather by the rate at which measured performance changes in the desired direction.

105. Basic performance measurements include the port's share in the markets affected by the strategy, the rate of growth in productivity and utilization of labour, equipment and facilities, and the financial condition of the businesses affected by the strategy. Where there are multiple objectives and targets, the evaluation becomes complex. In this situation, it is necessary that the objectives be prioritized and weights be given to the various performance measurements. The evaluation is also more difficult when there are complementary strategies which have an impact on the effectiveness of the original ones. Change can be monitored through regularly-scheduled reviews. Alternatively, a management-by-exception approach can be used. This assumes that strategies are effective and reviews are conducted only when there is a change in performance measurements or a significant failure to meet the specified targets.

106. For financial performance measurements, there is a regular reporting procedure associated with monthly or quarterly reviews of actual versus budget performance. However, data on specific costs for business are often difficult to identify and monitor. Performance measurements describing the utilization and productivity of port assets, e.g., berth occupancy and cargo-handling rates, are often reported on a monthly basis and can be used to evaluate some strategies. For other performance measurements it is necessary to develop new data reporting and analysis procedures. Information concerning the level of activity or volume of trade is reported on a periodic basis by the port; however, information regarding relative market share is more difficult to obtain since it includes data relative to the level of activity of competitors. The frequency of data collection and performance reviews should be determined based on expectations as to how fast change will occur. For strategies involving cost-cutting efforts or reallocation of resources, it is reasonable to expect that measurable changes will occur on a quarterly basis. Since most strategies are meant to be effective over the medium term, it is reasonable to limit most evaluation efforts to annual or semi-annual reviews.

107. The evaluation process can be strengthened in a number of ways. The most effective is to foster a management environment which emphasizes performance and provides clear lines of responsibility for the implementation of strategies. It is important that performance measurements be identified as part of strategy development and that efforts required to collect data be addressed at that time. The system for collecting, analyzing and reporting performance data can be improved, but it is necessary to insure that results have an acceptable level of accuracy and are in a format which is useful to senior management.

108. The review process can be relatively informal. Furthermore, it is important to avoid unnecessary complexity which would hamper evaluation. However, when the port is pursuing a number of strategies, it is necessary to develop a more formal procedure with regular progress reports submitted to senior management. In this situation, it may also be necessary to assign responsibility for the collection and analysis of performance data to a specific unit of the port organization and to establish common formats for reporting the performance related to different strategies. These reviews should be in the form of written reports to senior management and meetings between senior management and the manager given responsibility for implementating the strategy.

IV

CONCLUSIONS

109. Almost no port does strategic planning but every port plans strategically. The formal discipline of strategic planning as developed by various business schools has been implemented in very few ports, yet all except the smallest ports are involved in making strategic decisions for which they have created procedures ranging from management edicts to sophisticated corporate planning. Strategic planning is a continuous process, adapting to a changing environment whose real output is a managerial philosophy as much as a plan or document.

110. It is the job of port management to strengthen its ability to plan strategically by improving the information available within the organization, developing better mechanisms for building consensus among managers and for modifying policies and actions to accomplish the basic objectives when faced with a dynamic market. For organizations in the pioneer stage, i.e., new ports, strategies are developed by the senior management, most often the chief executive officer. The organization may lack the depth or size to adopt a formal process. Similarly, in organizations with a strong, central leadership, senior management will tend to keep strategic planning functions under its control. The formal discipline of strategic planning becomes more important as a port matures and decision-making responsibilities are decentralized. To the extent that the formal process of strategic planning can provide the necessary discipline for management to evaluate and implement strategies, then the process itself should be adopted. The formal process becomes an important mechanism for communicating common objectives and strategies.

111. Therefore it is recommended that strategic planning be introduced in all ports irrespective of their size and location. Of course, the implementation of the various strategic planning principles presented in this report needs to be adapted to the specificities of each port. Small ports located in developing countries cannot afford to adopt the same approach as the experienced and leading ports presented as "case studies". However, a change of mentality is essential first at the top management level and then at all the other levels, through general involvement, explanations and sensitization by top management. The type of technique or method to be used for designing and implementing the strategic planning process is certainly an important issue, though less crucial than obtaining a consensus at all levels on the need to put such a process into motion. Consequently, it is recommended that policy seminars be developed and implemented to increase the awareness and understanding by port managers of the strategic planning process. The key lessons learned in the three case studies should be integrated in these policy seminars. Futher studies and training programmes will eventually be needed to familiarize and train port managers regarding the strategic planning methods and techniques.

Case Study for the Municipal Port of Rotterdam(RMPM)

Size of the port

112. The seaport of Rotterdam has grown rapidly in the last 120 years. Its development into a major transshipment port for Western Europe occurred as a result of the establishment of the "so called" New Waterway providing direct access to the inland water transport system of the Rhine. With a draft of up to 74 feet, the port has become a major bulk port. Currently the port and its industrial area occupy some 100 square kilometres. Within the port there are some 70 kilometres of quay wall.

Current status of the Rotterdam Municipal Port Management

113. The Municipal Port of Rotterdam (RMPM) is a department of the municipal government of Rotterdam. It reports to the Burgomaster and city council. The RMPM functions as a landlord port which assumes responsibility for the development of the land within the port's boundaries and then leases the land out to port users. At present about 39 square kilometres are under lease, typically for 25 years with options granted to the lessee to lengthen the lease term with yet another stipulated amount of time. The RMPM invests in the infrastructure of the port and its industrial areas. The users assume responsibility for the development of the structures on these sites. As an industrial port, major clients are industries processing wet bulk cargoes. Rotterdam is a centre for refining. Transshipment of crude oil is profitable for the port administration, giving it a rather solid revenue base. Stevedores are another major group of clients, among which is ECT, a large container stevedoring company.

114. The Chief Executive Officer (CEO) of the Rotterdam Municipal Port Management (RMPM) is appointed by the City Council. RMPM employees are municipal civil servants. The RMPM's capital and recurrent budgets must be approved by the council, with its performance reviewed by the alderman responsible for port affairs and his staff. The RMPM is run as a business, at the same time being part of municipal government. It produces its own profit and loss account as well as balance statement, although it is a municipal department without any independent legal status. Despite being fully dependent on the municipality, due to not having legal status in its own right, the RMPM can exert considerable influence, the result of two decades of profitability and specialized know-how.

Throughput and major clients of the port

115. The port handled 140 million tons of bulk liquid and 92 million tons of dry bulk cargo in 1991, as well as 60 million tons of general cargo, primarily containerized (Table 1 and Table 2). The refineries, petrochemical facilities and chemical plants within the port produce most of the liquid bulk tonnage. Three large companies account for most of the dry bulk cargoes (coal, ores, grain). The ECT provides container handling services for a number of shipping lines. Rotterdam provides distribution services for the cargoes moving into Europe. It has developed a number of Distriparks and has also established regional trade and distribution centres for China/Hong Kong, Singapore, Indonesia and Thailand.

Table 1
Cargo Tonnages

	1987	1988	1989	1990	1991
Liquid Bulk	128.1	131.1	141.9	135.3	139.9
Dry Bulk	79.0	88.2	91.4	94.1	92.2
Non-Bulk	47.2	53.5	59.2	58.4	59.7
Total	254.3	272.8	292.5	287.8	291.8
Containers,flats		34.7	38.6	39.3	40.1
Incoming		211.8	225.9	223.1	227.8
Outgoing		61.7	66.6	64.7	64.0

Source: Rotterdam Municipal Port Management

Table 2

Transshipment Shares in the Hamburg - Le Havre range of Ports

	1987	1988	1989	1990	1991
Hamburg	9.7%	9.5%	8.9%	9.3%	9.7%
Bremen	5.1%	5.0%	5.1%	4.6%	4.7%
Amsterdam	5.0%	4.6%	4.4%	4.8%	4.8%
Rotterdam	43.4%	44.2%	45.1%	43.7%	43.1%
Antwerp	15.5%	!5.7%	14.7%	15.5%	15.0%
Gent	4.1%	3.9%	3.6%	3.7%	3.8%
Zeebruge	3.0%	3.3%	4.0%	4.6%	4.6%
Dunkerk	5.5%	5.8%	6.0%	5.6%	6.0%
Le Havre	8.7%	8.0%	8.2%	8.2%	8.4%
TOTAL	100.0	100.0	100.0	100.0	100.0

Source: Rotterdam Municipal Port Management

Leadership and the decision-making process

116. Over the last four decades, the Rotterdam Municipal Port Management has evolved from a pioneer organization (where the decision-making process is centrally conducted by the pioneer, and where in principle, all decisions concerning small or large problems are taken by the pioneer personally) to an organization where the decision making process is more distributed or even dispersed. Strategy development has become more widely distributed in the organization, though all plans have to be approved within the RMPM's top management structure and by the city government (e.g. by the Alderman for Port Affairs, the Port Committee, the Finance Committee, etc.). Consensus building is used as a tool while at the same time some manoeuvring space is extended to pioneering types of personnel. Since the interface with the business community is rather straightforward and direct, consensus building with the business community is usually done at the earlier stages of project development. Since most of the formal power in Dutch municipalities lies in the hands of the city council, the burgomaster and the municipal secretary, the CEO of a municipal department has little formal power: he has the right of dismissal, though higher-level civil servants of the RMPM are screened by the city; nor is he free to refuse appointees for high posts by the city. Budgets are allocated by the city council. The CEO may decide freely about investments up to 3 million Dutch guilders annually, and is accountable for the use of this money only after the fact without having to request prior approval.

Organization of the RMPM

117. The RMPM was recently organized into three divisions. The Nautical Division is responsible for traffic management, safety and environmental protection, and accounts for about three-fourths of the total staff. The Marketing Division is responsible for renting infrastructure and sites, physical planning and collecting rental fees and port dues; it accounts for only about one-tenth of the staff. The Innovation Division performs forecasting and port economies, port and human-resource planning, and the collection of marketing data. It employs about 7 per cent of the RMPM staff. This division will be responsible for the development of strategic plans for the Rotterdam port and industrial area; however, it does not have exclusive rights to do so.

Data gathering and analysis

118. Every four to five years a major effort is dedicated to constructing scenarios ("alternative and realistic pictures of the future") leading to structurally different sets of forecasts. From time to time, a strategic appraisal of market segments is also conducted (size, outlook, power structure within the chain of production, distribution and transport). Currently, emphasis is being put on SWOT analysis (strengths, weaknesses, opportunities and threats). Areas to which the SWOT approach has been applied include the Rotterdam Food sector, Rotterdam as an industrial centre for refining and petrochemical industries, Rotterdam and its container sector. Otherwise, marketing data are collected whenever needed. This takes the form of direct exchange of information within informal settings, or formal research as conducted by an outside consultancy firm or research conducted by the RMPM itself. The Marketing Division is responsible primarily for leases and rentals. Other marketing intelligence collected on a regular basis includes the customs data regarding cargo origins and destinations and port data on vessel activities and berth utilization by facility, as well as the relative market shares of transshipment cargoes for Western European ports.

Introduction of Strategic Planning

119. The strategic planning capability of the RMPM has evolved slowly over the last 15 years. It began at the urging of the financial comptroller as part of an effort to improve the ports budgeting and cost-control activities. The post of strategic planner was created within the comptroller's department at the end of the 1970s. Since the comptroller's department can report directly to the municipality, the strategic planner has both an independence and an authority which would not have been possible in other departments. However, senior management has chosen not to develop well-structured, corporate-wide strategic planning.

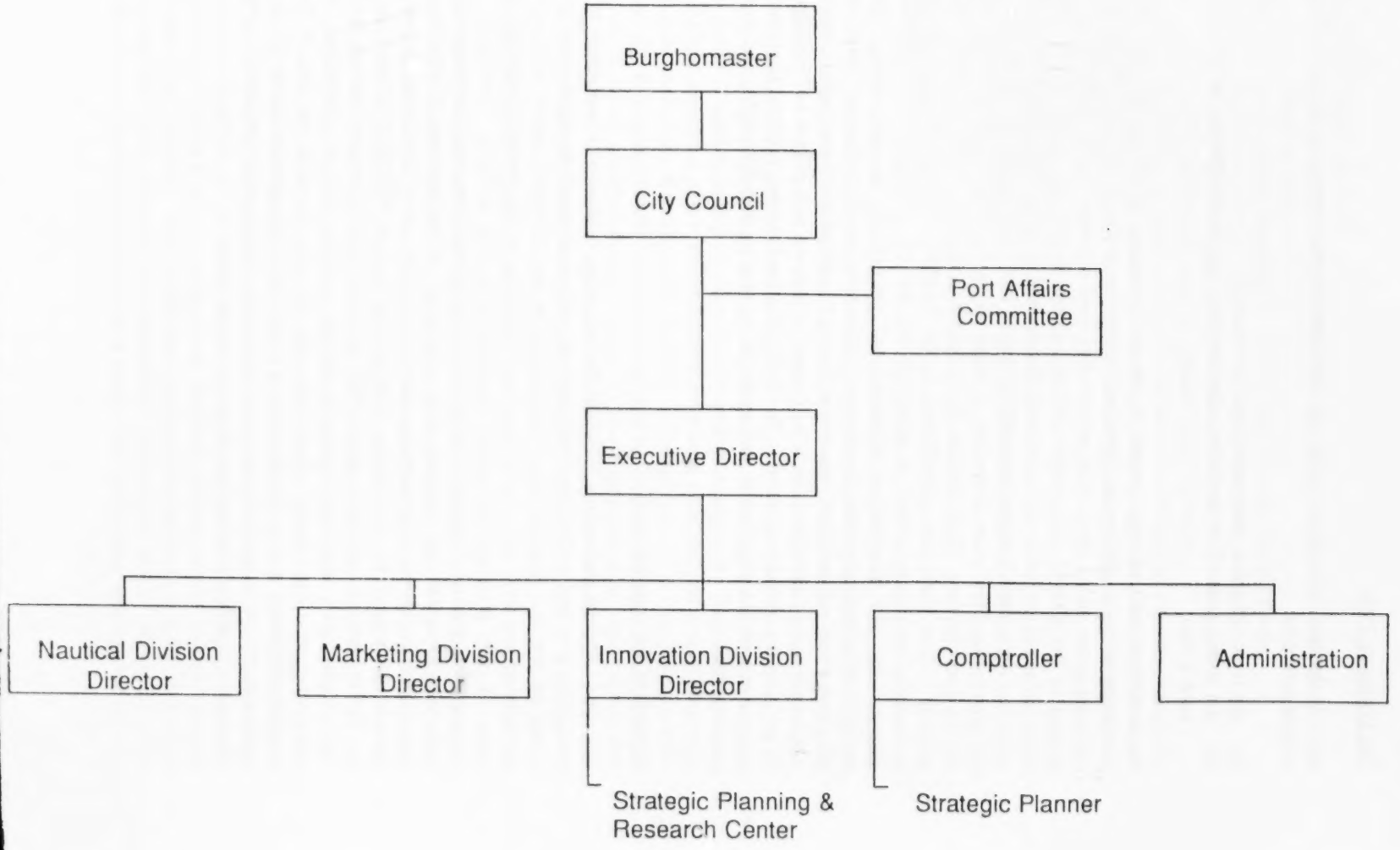
Major strategic analysis in the early 1980s

120. Interest in establishing a corporate capability was heightened after a regional strategic appraisal carried out by an academic group in the middle 1980s. This study was funded by provincial governments, the local chamber of commerce, the RMPM and the port employers' association. The RMPM made the largest contribution. The appraisal examined global change (in particular South-East Asia and North America), next focusing on Europe and afterwards Rotterdam. This extensive research programme generated a large number of strategies for the Port of Rotterdam. At the same time, it functioned as a community-building programme in that it addressed a number of common problems. This study also encouraged communications between the governments and the major economic entities within the region. It demonstrated to the port- management and to the municipal government how RMPM activities could aid in promoting industrial and economic development.

Port plan 2010

121. Despite this renewed interest in strategic planning, the RMPM still did not adopt formal strategic planning. Instead, in the early 1990s it prepared a long-term plan for the port in the form of Plan 2010 and a 4-year plan. The former, Port Plan 2010, identified a number of areas on which the RMPM should focus over the long term and proposed major investments in infrastructure for the port and the connecting transportation network in order to improve the port's competitiveness over the next two decades. This plan contained an optimum forecast which predicted a one-third increase in traffic by the year 2010. It stressed the importance of trade in containers and food as well as the handling of LCL cargoes and distribution activities. The major developments proposed in this plan covered four areas: extending the industrial area of the port seaward, more intensive use of the port space, improved access to and from the port, and increased environmental protection. Access improvements would include changes in the waterway as well as in rail and road connections to the port. Recommended changes in the railway included developing the port's internal rail network, electrifying the port rail line and improving the rail links to the south and east. For the road network, improvements focused on establishing new links and widening existing links in the regional network. The total investment proposed in this plan was 30-35 billion guilders, of which the RMPM would provide about 13% and the national government about 20%. Private industry would furnish the remaining amount.

Rotterdam Municipal Port
Strategic Planning Elements



The Corporate Plan

122. At the same time the port plan was being developed, a corporate plan was prepared as a consequence of:

(a) the legal obligation under municipal law to do so
(b) the strong wish of the municipal administration that the RMPM do its best to prepare such a plan.

The underlying idea was that control by the city (paragraph 5) and by the port committee (consisting of city councillors and presided over by the Alderman for Port Affairs) would be enhanced given such a plan, while on the other hand a greater degree of freedom could be granted to the RMPM since major critical success factors and major targets would be identified and agreed on in such a corporate document." In early 1993, the RMPM is the only municipal department that has presented an actual four-year plan to the municipal council. The plan required two years to develop. It began with extensive discussion between the CEO and his three directors. Each director then proceeded to prepare a four-year plan within his division. These plans were consolidated by the RMPM's strategic planner who was also instrumental in defining content, in agreement with the city governement's requirements and wishes. In 1992, this plan was discussed and approved by the city council. The plan included an analysis of market development, opportunities and constraints. It also included budgets for both recurrent and capital costs during the period and some numeric targets, e.g. committing 2 per cent of the value of total assets to reserves each year and disbursing at least 70 per cent of planned investments. The financial impacts of the proposed investments and programmes are examined in the plan as are the impacts on the organization and its staffing requirements.

Contents of the corporate plan

123. The corporate plan mainly deals with the following: a change of importance of tons of throughput as a port performance indicator, as well as in regard to added value produced within the port and industrial area; maintenance of environmental quality; improvement of accessibility and ship turn-around times; and expansion of the port and industrial area sea ward. It sets priorities and policy regarding marketing activities, investment in port infrastructure, internal effeciency of Rotterdam transport, tariff structures and connections (rail, road, river, electronic data communication, pipelines). Along these lines it refers to a major new railway connection with Germany (new track), more use of shuttle and express trains, more berthing space for river barges, EDI systems such as PROTECT (dangerous cargo), SAGITTA (customs clearance system), INTRACARGO (EDI regarding conventional goods), INTRACON (EDI regarding containers, linking customs, shipper, transporter, receiver, container-depots, and others). Apart from this, the plan mentions the role of the RPM regarding education and its role as a monitor of its clients management quality, the quality of dock workers and Rotterdam's industrial relations, including collective labour agreements. The policy regarding land use is to intensify current usage.

Specific policies aimed at:

(a) developing regional, national and European support for Rotterdam as an industrial port.
(b) strengthening the position of Rotterdam as a distribution centre
(c) minimizing the use of space for transhipment only.
(d) developing a European logistics centre for fresh fruit and juices.
(e) creating additional space for industry and distribution
(f) improving the transport network within the Rotterdam area and the connection with the European network, specifically the rail (Betuwe Line) and the inland waterways for the movement of containers, and establishing Rotterdam as a rail port.
(g) developing good public relations.
(h) supporting education and research.
(i) developing a global EDI (Electronic Data Interchange) system.

The planning cycle

124. Although the corporate plan is only prepared once every four years, this frequency may be sufficient for Rotterdam's strategic planning. An annual planning review is not required because the time horizon for investments is much longer and changes in the market place are less frequent. The time frame for major investments from conception through approval, design, construction and start-up is typically five to ten years for the RMPM as well as for its competitors. Even developments relative to cargo-handling technologies and the procurement of major pieces of equipment require a three to five year planning cycle. This does not mean that the RMPM should not plan strategically on a continuous basis, just that an annual or even biennial cycle of strategic planning is not required. Although the plan is only prepared once every four years, its progress will be monitored annually. Starting this year, the city council will require an annual report to the city council on the progress made in implementing this plan. Divisions have now begun to prepare more detailed work plans than those submitted as part of the plan in order to be able to monitor progress.

Decision-making by negotiation and alliance

125. Although there has been no move to establish a formal strategic planning activity, there is also no clear indication that such an approach would work. The RMPM's current decision-making process tends to be combative, with consensus achieved gradually through negotiation and the building of alliances. Support for a major programme or policy proposal must be developed first within the department and then the division. Once this is accomplished, the division head will discuss it with the CEO to obtain tacit approval before proceeding to draft a paper for submission to the city council. The building of a constituency in support of this policy or programme usually extends beyond the port management to the users of the port and members of the business community. Because of the political nature of being a municipal department, the RMPM's decision- making process is somewhat fuzzy. This prevents hard choices from developing at an early stage in the decision- making process and leaves room for negotiation and learning. The organization gradually adopts the idea as its own. The result is that both data collection and institutional assessments tend to be weak. The introduction of a corporate plan has eliminated some of the ambiguities, although the plan is

itself a public document. This is different from private enterprises and many ports which have a public relations document which presents generalities but also a more specific strategic plan which is confidential. Not only does RMPM's public document present the actual strategic plan of the port management, but RMPM management is now also attempting to use the corporate plan to provide a longer-term focus to management activities. Only division work plans are treated as internal documents.

The Corporate Plan compared to policies of the 1960s

126. The corporate plan formalized a change in mission which has been occurring over the last three decades. In the 1960s, the RMPM was growing rapidly. The primary objective was employment generation since the job situation had not recovered significantly following the war. The principal strategy was to develop industrial sites and then lease them out, with the result being Europort. The pattern of management style began to change during the early 1970s. Decision-making became more decentralized and formal budgeting procedures were introduced during the late 1970s. Investment planning was at that time improved as well.

127. The RMPM's basic mission since its conception in 1930 has always been to boost the ports's economic performance. The province of South Holland is responsible for overseeing compliance with standards relative to air quality, industrial noise levels, safety regarding land storage of hazardous cargo, the environment, etc. The RMPM is only interested in the environment if lack of environmental protection threatens long-term quality and attractiveness of the port and its land. As it appears from the current four-year plan, management views the future of the port, apart from continuing growth as an European transshipment centre, mainly in terms of sustained industrialization. Consequently, the four-year plan introduces added value generated in the port area as a yardstick for success. The strategy of the RMPM comes down to the following:

(a) ensuring recognition by the EC that Rotterdam fulfils a European transshipment and distribution function with regard to EC financing of intra-European routes(rail, water, road).
(b) as much as possible, staving off a price war between competitors (Antwerp, Rotterdam, Zeebruge, etc.) in the container sector (harbour dues, container handling costs).
(c) rethinking tariff structures, while analyzing to what extent such structures can embody concepts such as sustainable development and maintenance of competitive power.
(d) balancing the short and long-term outlook of the port regarding the environment: aiming at long term performance with a willingness to sacrifice (a bit of) short-term performance if this aids future performance sufficiently enough to be merited.
(e) To the RMPM, profit is not the prime variable to be maximized; long-term prosperity for business is more important.

Sustained performance: land use and environmental quality

128. The RMPM strives toward sustained performance of the port. To keep the port attractive, acceptable environmental quality should be reached and maintained. For the RMPM, a sufficiently healthy environment is a precondition for sustained performance in terms of attracting new industry, cargo and services. All RMPM strategies focus on increasing or maintaining competitive power, including those regarding the environment. Since new industrial land has to come from the sea, expansion of the port area is rather expensive. Therefore measures are being taken to help intensify land use. Other potential

uses of land (in particular sites bordering the city and other neighbouring municipalities) are being jeopardized as dwellings steadily encroach on port and industrial activities. This means that land use other than current use is becoming threatened in terms of the environment (noise, dust, stench, danger). Therefore, in the 21st century extension of the port area will not only become a possibility because then a shortage of industrial land, but also since some industries and port activities perhaps would have to be moved westward to newly-reclaimed land.

Profit and investment

129. The financial strategy of the RMPM is constrained by its position as a municipal department. The port was subsidized following the war and has turned a profit since 1971, although maximization of profit is not its objective. Eight per cent of turnover is transferred to general municipal funds as a reward for financial help between 1945 and 1971. Since then it has produced a considerable profit even after contributing 8 per cent of gross revenues to the competition. Social demands on its resources, however, have cut into its profits, as shown in Table 3. As a landlord port, its primary role is to finance the development of its land. The relatively high operating ratio is due to the capital intensive-nature of its business; yet the port still manages to earn an 8 per cent return on its invested capital. Because of the considerable competition in the area between Le Havre and Hamburg and projected structural growth of the container sector, emphasis is being placed on increasing the port's container-handling capacity while continuing to improve the port. For these purposes, the RMPM has proposed to invest more than 1 billion guilders in the current four-year planning period. Of this, about 40 per cent will be spent on container and distribution services, and another 40 per cent will be spent on restructuring the older basin and contributing to construction of the high-tide barrier. The average level of investment by the GHR in the period 1988-1992 was 165 million guilders (about $US115 million) but is expected to average over 200 million guilders over the next four years.

Table 3

Financial Performance for 1991.

Profit as % of Revenue	6.3%
Return on Invested Capital	8.1%
Port Dues/Invested Capital	12.1%
Rentals/Invested Capital	6.8%
Invested Capital (Bn guilders)	3.15
Operating Ratio	.92
Operating Ratio (excluding deprec. & interest)	.34

Obtaining funds

130. The city council must approve its annual budget and all capital expenditures, although the RMPM has never had difficulty in obtaining funding for (there have been delays in obtaining approvals to spend the funds). The RMPM borrows funds for expansion from the Municipal Loan Fund at relatively low rates. The relatively favourable rate combined with the sufficiency of funds has allowed the RMPM to apply a real discount rate of 5 - 5.5 per cent in evaluating prospects. The RMPM can finance infrastructure at relatively low cost. It seeks mechanisms to lower costs of financing for stevedoring and other port industries. This will be particularly useful in the case of clients and customers whose businesses are in the early stage of growth.

Port tariffs

131. The basic pricing strategy of the RMPM is to lease land at a competitive rate. The RMPM collects the majority of its revenue from port dues rather than rent as shown in Table 4. In this way, the port assumes some of the business risk of its clients. It negotiates relatively long leases in order to allow the client to recover the capital cost of superstructure investment. The RMPM will occasionally invest directly by providing loans to clients such as ECT, thereby contributing to the competitiveness of the port. It protects itself against inflation by adjusting port tariffs on an annual basis and renegotiating lease terms periodically. The RMPM establishes differences in rental rates of land according to differences in location and size (adjacent or non-adjacent to navigational waters, distance to major through roads, etc.). The options for discriminatory pricing are limited. Since Port dues are a municipal tax, the RMPM cannot use them to discriminate among users. Nor can the RMPM offer a rebate against the tariff or use the quoted tariff as a maximum. Therefore, it has begun to change the formal tariff itself rather than giving rebates. Sometimes it uses a fund (created by the pilot organization and the private port organization that handles mooring/unmooring) to cover rebates: this is the exception rather than the rule and is only done when it is absolutely clear that by not doing so the RMPM would lose income in the form of harbour dues.

Reconsidering the tariff base.

132. The RMPM is currently considering the adoption of a policy of sustainable performance. This policy seeks a balance between the need to remain competitive and profitable and the obligation to comply with those environmental and social norms associated with sustainable development. The current four-year plan sets out the RMPM's environmental policy within a performance framework as follows:

> "Because of the competitive situation in the short term, no environmental policy can be conducted in Rotterdam that deviates too much from the policy used in other connecting ports and industrial areas. But it is clearly in the interest of the environment that on the European and international level, stiff environmental standards are used."

A pricing policy is being researched in which land rentals and port dues will be set in accordance not only with the characteristics of the site or the vessel but also the characteristics of site or vessel use. For this pricing strategy, measures of value-added sustainable performance and sustainable development would be used to compute the rental. Such a pricing policy would define tariffs as a strategic tool.

Soil conservation

133. In the area of soil conservation, the RMPM has prepared a soil-pollution policy plan and is proposing to clean up only the so called "hot spots" within current land use, attempting to create a mutual insurance scheme between the municipality and lessees in case land use has to change when the land is unsuitable for such a change. Thus lessee liability (based on civil law only or on stipulations in the lease contract as well) is reduced and concrete liability payments to the landowner postponed as long as possible. For water pollution, the RMPM has developed a plan with the Ministry of Public Works to reduce regional water pollution by 70-90 per cent over the next 15 years. For pollution caused by vessels, the RMPM is considering pricing incentives and higher quality service for vessels that minimize pollution. The RMPM has also contributed to an international programme to end pollution of its main river connections, i.e., the Rhine and Meuse. The reason is that basins in Rotterdam tend to act as a kind of "vacuum cleaner" for heavy metals and other toxic compounds necessitating investment in the past of up to 200 million guilders (used for a huge disposal basin for dredged materials). This programme eventually will lead to unpolluted silt within the basins which can then be dumped into the sea within the basins which without any environmental hazard.

Table 4

Sources of Revenues and Expenditures

Revenues	
Port Dues	383
Rental Income	203
Other	29
Total	615
Expenditures	
Personnel	74.7
Port maintenance	55.4
Other maintenance	55.6
Depreciation	160.7
Interest	186.5
Housing, Contributions	18.1
Total	551.0
Surplus	64.0
Municipal Overheads	27.0
Retained Earnings	37.0

Port Authority of New York and New Jersey

134. The Port Authority of New York and New Jersey is a regional agency created in the early 1920s to manage the bridges and tunnels connecting the two states. During the 1950s, the role of the Authority was expanded to include management of the major airports and port facilities operating in the metropolitan region. The PATH commuter train which connects New York and New Jersey was taken over in 1962. In the 1970s, the Authority constructed the World Trade Center and became involved in industrial and economic development projects. Today the Authority operates and maintains a wide range of transport facilities. The major port facility owned by the Authority is the Elizabeth Port facility located in New Jersey, which includes a number of separate terminals for handling containers. Other port facilities include the nearby Howland/Hook and Global container terminals, the Auto Marine Terminal and mixed general cargo/container terminals in Brooklyn. A summary of these facilities is presented in Table 1.

Table 1

General Cargo Facilites WIthin the Area of the port Authority of New York and New Jersey

Terminal	Cargo	Berth (m.)	Area (ha.)	Equipment
Elizabeth Port	containers	4,460	310	18 gantry cranes
Port Newark	containers	1,157	62	7 gantry cranes
Auto Marine	autos	545	164	
Howland Hook	containers	760	75	7 gantry cranes
Global Marine	containers	545	41	4 gantry cranes
South Brooklyn marine	breakbulk, container	1,889	45	2 gantry cranes
Brooklyn Marine	breakbulk	1,782	4	
Red Hook	breakbulk,roro containers	920	32	4 gantry cranes
Green St. Lumber Exch.	lumber			
Passenger Ship Terminal		2x200		

135. The port of New York/New Jersey is primarily an import port serving the metropolitan area and adjoining states as well as the North-east and Mid-west through intermodal connections. Its major cargoes are containers, vehicles, scrap metal and bulks goods. The volume of exports has been flat while imports have experienced

anemic growth. The port has also lost some of its major trade such as grain and fruit imports, but has obtained new trade in automobile imports and waste- paper exports. These changes are due in part to demographic factors which have reduced the importance of the metropolitan area as a center of both production and consumption. Another reason is the increasing competition from the container ports located on the mid-Atlantic coast as well as the growth of land bridge traffic for imports coming from the Pacific Rim.

136. The Authority is governed by a Board of Commissioners and the Executive Director which are appointed by the governors of New York and New Jersey. The Executive Director reports to the Board. The Authority's Port Department manages the maritime port facilities. The Port department Director reports to the Port Authority Executive Director. This Department leases out waterfront sites, developed or undeveloped. Its tenants are equally split between terminal operating companies; shipping lines such as Maersk and Sealand rent terminals. It also leases out 500,000 square meters of warehousing and distribution parks. The Port Department divides its business activities into five basic programmes: asset management, intermodal transport, trade and customer services, labour and marketing. Within the Port Department are three divisions: marketing and sales, responsible for promotion; operations, which carries out facility and maintenance; planning and business development, responsible for strategic planning, finance, intermodal transport, legislation and leasing. A diagram of the organization is presented in Figure 1 indicating the divisions which are responsible for activities in support of strategic planning. The authority staff has a status similar to state employees, though salaries and staffing levels are set by the Authority rather than the state. The result is a relatively stable work force.

137. The Authority is financially self-sufficient. Traditionally, bridge tolls were its major source of funds, but more recently the World Trade Center and airports have generated the surpluses. On the other hand, the bus facilities and the commuter rail service have a history of deficit operations. The port is able to cover its operating costs but not its capital costs. The Authority does not have any taxing powers: it is, however authorized to issue revenue bonds to fund its major capital investments.

138. The nature of the Authority has changed over the last four decades. In the 1950s and 1960s, it had a strong Executive Director and benefitted from a growing volume of traffic. During this period it expanded its authority to include marine facilities and developed Port Elizabeth into the premier container port in the United States. Since the Authority contributed considerable revenues to the state governments, it was granted considerable autonomy. As the scope of the Authority's activities grew, the size of the organization increased. This growth, combined with a change in leadership, resulted in a broadening of decision-making responsibilities and greater participation by the Directors and their Departments. Since the Authority continued to be profitable, there was growing interest by the state governments in the use of its revenues. As the visibility of the organization and its programmess increased, there was closer scrutiny of its activities by the state governments. The states now involve

themselves much more in decision-making. Consequently, the autonomy of the Authority has been reduced.

139. As a result of these changes, the Authority has increased in size and become more hierarchical and analytic. New ideas move through the organization in a structured way. The building of consensus for new ideas begins at the group level and proceeds to the departmental level before being put before senior management. Alliances outside of the organization are not established until a departmental consensus has been achieved, although preliminary contacts may be made with potential users.

140. Strategic planning has evolved from a relatively centralized process under the control of the Executive Director to a more diffuse and formalized process. Its principal mechanism is the preparation of the five-year corporate business plan. The port's plan is updated on an annual basis beginning in December and continuing until July. It then becomes part of the Authority's plan, which is completed in November. The relatively formal process used to prepare the plan is managed by the Authority's Department of Management and Budget. The review is initiated by the Business Planning Panel, a permanent group composed of one or two persons from each line department who are involved in planning, as well as some planning personnel from the staff departments. This panel reviews the events of the previous year in order to determine what policies and programmes have worked and what major issues are facing the Authority. The panel also solicits input from senior management all of which is used to develop alternative scenarios for the next five years. Based upon these efforts, a series of questions and issues are prepared for consideration by senior management.

141. This package is presented at the Director's January retreat, attended by the Executive Director, the Assistant Executive Directors and the Department Directors as well as a group facilitator. Decisions made during this retreat are used, together with the information that the Business Planning Panel has produced, to develop ive-year Departmental Business Plans. Each department examines the current trends in its markets and any opportunities and threats anticipated over the next five years. Draft business plans are prepared for discussion with the Executive Director and also with the other Directors whose coordination is required or who have a common interest. The final plans, which include investments, specific performance targets and recurrent cost and capital budgets, are submitted to the Department of Management and Budget. This Department edits and consolidates the plans into a final corporate plan for submission to the Board of Commissioners. Following approval, progress in implementing the plans is monitored through the Quarterly Performance Report which compares the specified targets and actual performance. This report provides data on financial and budget performance, staffing and project completion and contains specific observations concerning performance relative to the targets. The Executive Director reviews this report in meetings with his Directors.

142. The planning process can be used to develop new strategies but is primarily a mechanism to review past efforts and the internal and external environments as well

as to approve strategies, programmes and projects that have previously been proposed. Strategies continue to be developed on an *ad hoc* basis at all levels within the department and then to move up through the different levels of approval. This planning process does require each department to review its competitive position and to consider how to better allocate its resources on an annual basis. It assists each department in developing consensus concerning its major strategies and programmes, however, it does little to build consensus on common policies or strategies among the Authority's top management. Overall, the corporate and departmental plans change relatively little from year to year. There may be a shift in relative priorities, but generally the basic strategies and programmes remain unchanged.

143. The principal weakness of strategic planning is that it is part of the budgetary process. The corporate plan is updated as part of the preparation of the budgets for annual recurrent expenditures and for five-year capital expenditures. Despite the attempt to expand the time horizon and to introduce strategic issues, the essential output from this process is the annual budget for recurrent expenditures. The five-year capital budget does provide a longer-term focus but the planning horizon for major programmes will vary from a few years to a decade or more, depending on the type of investment required.

144. The marketing information used in the planning process is generated from a number of sources within the organization. Each line Department has a marketing and sales function aimed at developing promotional themes and packages for use by the sales force. Within the Port Department, there is a Market Analysis Division which collects data on current trends in macroeconomic activity and trade. This Division also examines U.S. trade databases (US Census Bureau, Piers) to determine the port's market share for the major commodities handled relative to other Atlantic Coast and national ports. The Division uses external databases and some consultancies to develop long-term forecasts for regional trading patterns in the case of new trade, while staff members are assigned to monitor the major commodities handled in the port to determine any changes in their patterns of production, consumption or trade. Additional market intelligence is obtained from the Authority's national and international sales offices, especially during their biannual meetings, as well as from personal contacts at other ports. The Marketing Analysis Division prepares a quarterly report which summarizes changes in market share and trends in trade, while highlighting any specific events or changes in the port's markets

PORT AUTHORITY, NEW YORK AND NEW JERSEY
ORGANIZATION CHART OF PORT DEPARTMENT

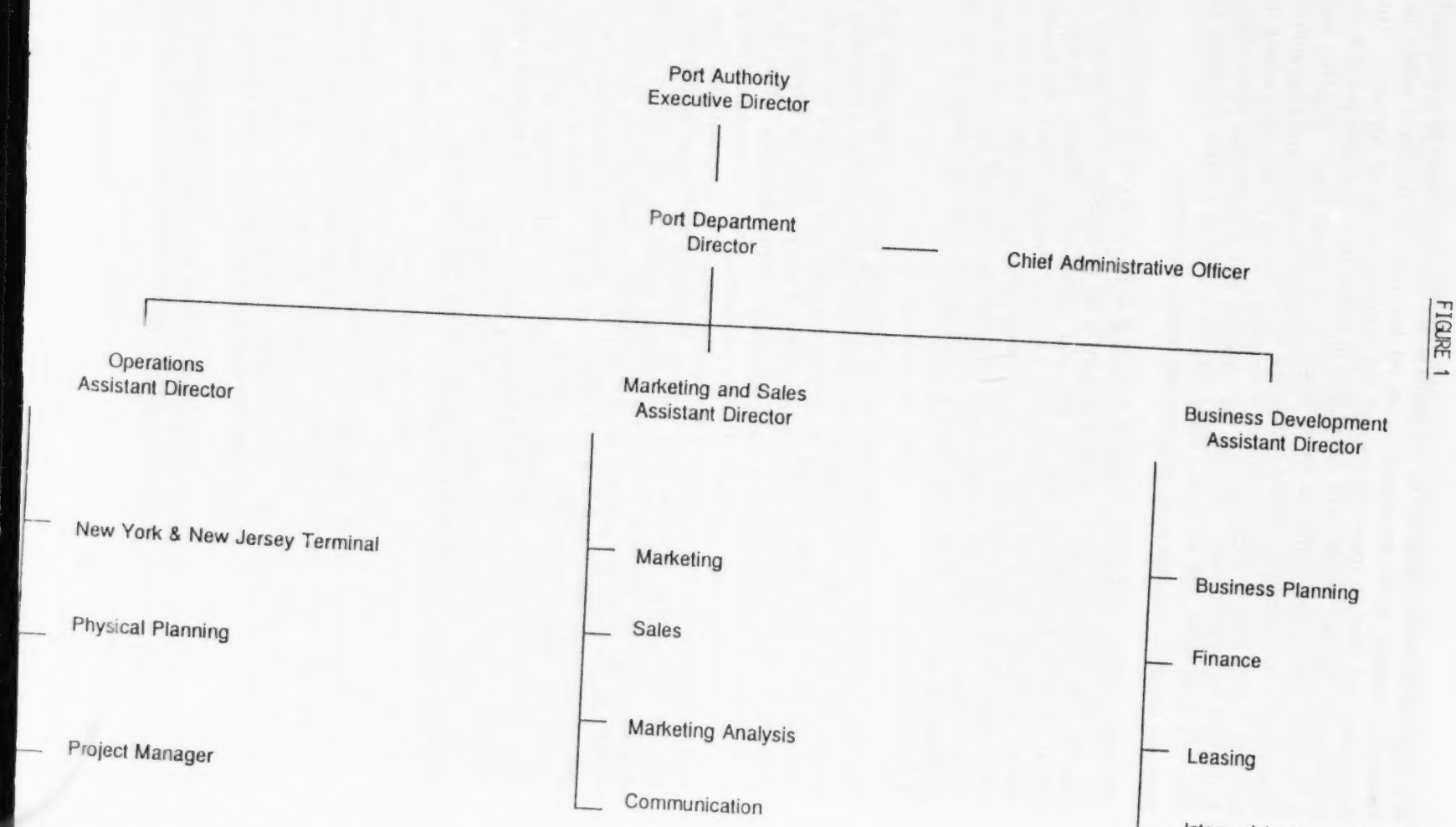


FIGURE 1

145. The difficult problem of reallocating staff resources in order to implement programmes and achieve corporate strategies is addressed informally rather than through the corporate plan. Since the recurrent cost budgets are developed by department division rather than by programme there is little information available on the allocation of staff to different programmes. In order to obtain this information it would be necessary to change the accounting codes to conform with programmes rather than Divisions. Given the conservative nature of accounting, this is a formidable task. In the medium term, the only option for budgeting of staff time is through a separate workload analysis. The Authority prepared such an analysis in 1991 in which Division managers were asked to project the allocation of each staff member's time over the coming year. When this data was compiled, it was found that excessive time was spent marketing and sales activities. As a result, some of the staff were shifted to higher-priority activities in the Intermodal and External Relations Divisions. A second analysis was to be performed in 1993 but has now been postponed due to external factors. This analysis will examine the staff time which is expected to be allocated by sub-programmes and comparing these with stated priorities.

146. Since it is a public agency, the Authority has a mixed set of goals ranging from job creation and regional economic development to financial self-sufficiency. The primary mission of the Authority is to enhance the economic strength of the region, which also applies to the Port Department. The port has accomplished this mission by providing a multipurpose cargo-handling capability to serve its hinterland. Because of the Port Department's continuing deficits, there is now a growing emphasis on improving the financial picture subject to the objectives of its primary mission. Projects which are not profitable may be approved only if they are expected to complement profitable port activities or provide economic advantage to the region. There is a reluctance to invest in existing assets when the revenues from their use do not cover costs, and new projects are expected to earn an acceptable rate of return. However, subsidies are considered when the activity is of economic benefit to the region and might otherwise go elsewhere. Also the accounting system does not provide sufficient information on fixed costs for individual programmes and businesses, therefore the previous or expected rates of return for these programmes and businesses are difficult to estimate.

147. In order to attain self-sufficiency, the Department is now reviewing the terms of the existing port leases; many of which come up for renewal at the end of the century. A study is being made to determine the price elasticity of the business as a mechanism for adjusting rents to keep them in line with costs. Other issues under consideration include changing the period of thelease, using throughput charges in place of straight annual rental fees, etc.

148. Another mechanism for implementing a financial self-sufficiency strategy is through the project review process. This process varies with the type and size of the project. Large capital projects take the following steps:

(a) The proposal is discussed within the department to develop a consensus.

(b) The general proposal is reviewed with appropriate staff departments,e.g., engineering and finance.

(c) A formal proposal is prepared (draft agenda item) for presentation to the Board. This paper conforms to a defined structure and includes a discussion of how the project relates to the department's business plan and its capital investment plan.

(d) The proposal is circulated to the Department Directors for comments.

(e) Next it is discussed in a meeting of mid-level personnel from each Department and then in a meeting involving the Executive Director, and his Assistant Executive Directors and Department Directors.

(f) The proposal is sent to the Board for review and resolution of an policy issues.

(g) Lastly, the proposal is submitted to the Board for final approval.

The corporate and departmental business plans are used as a reference to identify inappropriate projects are considered. This process does not provide mechanisms for integrating projects or for thinking in a systems-oriented manner about the various projects.

149. The port has had difficulty in liquidating its unproductive assets, especially idle land. There are few governmental agencies which are willing to accept unproductive land. These sites cannot be developed for non-port purposes, whether through public or private development, without a lengthy public review[7]. Difficulty in downsizing is due to political as well as policy constraints. The port, faced with a diminishing market and increasing competition, has reduced its inventory of land and disengaged from activities which it felt would continue to remain within the region. It is now concentrating on containers, autos and some bulk products which are the most appropriate for the region. The port has made efforts to specialize or to establish niche markets. Since it does not operate its own facilities, it cannot develop cost leadership on its own but must work together with its tenants and particularly with stevedoring labour to make the port more competitive.

150. Despite the transition from development of new facilities to the maintenance of existing assets and disposal of non-productive assets, there has been no significant restructuring. The Engineering Department was to serve under programme of rapid expansion but now the requirement for designing new facilities has been greatly reduced. At the same time, the organization has recently begun to organize around issues such as the provision of broader logistics services and environmental

---

[7] In order for the Authority to turn a property over to the private sector, there often must be a plan for its subsequent development which has been approved by the community as well as by the appropriate state agencies. In order to transfer property to another state agency, it must find an interested party willing to include the property on its books. In many cases, the Authority has continued maintaining the land.

maintenance. The port has introduced several new services such as its Xport trade promotion company, a version of EDI, and a Foreign Trade Zone in order to serve its users better. However, these programmes appear to be of an individual nature rather than part of a broader strategy for de-emphasizing facilities in favour of logistic services.

151. Over the years the Authority has developed a commercial orientation in its investments and management; however, this has always been balanced by concern for the public-service aspects of the port. Recently, concern over environmental quality has been increasing. The catalyst is the problem of disposal of dredged materials, but now issues such as water pollution, handling of toxic cargoes, etc. are gaining importance. Traditionally the Engineering Department has dealt with these matters. The Executive Director now provides policy leadership along these lines and has established an environmental unit within the Authority. However, the strategic thinking with regards to this area has been on a department by department basis. The approach has been largely reactive, responding to conflicts with ongoing businesses, though it appears to be changing to a more pro-active form.

152. Current planning efforts underway at the Port Authority for the period 1994-1998 will mark a new step in the agency's development of business and strategic planning whereby interdepartmental approaches to regional issues will be stressed. In the past, each of the Port Authority's five lines of business (port, aviation, interstate transportation, world trade and regional development) prepared individual business plans, programs and initiatives. The Port Authority business plan had been little more than the combination of the five line departments' plans under a single agency umbrella. This approach to structuring the business efforts of the Port Authority as a whole failed to take advantage of the synergies that could arise from collaborative programmes across the various lines of business. Efforts currently underway are addressing this weakness in the planning process. The line departments with assistance from the management and budget department have initiated collaborative working groups that will develop joint strategies and initiatives to deal with pressing regional needs in well-defined areas, particularly in regard to improving regional mobility and strengthening the region's ability to support trade and economic development activity.

153. The impetus for this new approach to agency-level planning stems from both internal and external forces. Internally, the line departments within the Port Authority became dissatisfied with a planning process that stressed format and schedule over substance. The interdepartmental working groups reflect an attempt to shift the driving force behind planning efforts closer to the lines of business and the needs of the region. Externally, the long recession in the New York/New Jersey area has resulted in increased competitiveness between the states of New York and New Jersey in the area of new business attraction and development. As a result, the long-term investment plans of the two states are not always complementary in serving a single New York/New Jersey economic centre. The new planning efforts at the Port Authority are, in part, a response to these external conditions and a recognition that

the agency's bistate mandate may help to ensure that the benefits of public investment are maximized to serve a single bistate commercial centre.

154. The Port Authority is also allocating resources toward expanding and improving this approach to planning. A task force comprised of representatives from the line departments and key planning and budget staff departments will examine the Port Authority's planning process with an eye toward strengthening cross-departmental efforts and responsiveness to regional needs. The first step will be to improve regional scanning efforts within the agency. This emphasis is intended to objectively identify critical needs for maintaining regional competitiveness and potential Port Authority roles aimed at addressing these issues. By clearly defining Port Authority roles, the hope is also to establish stronger working relationships with other public entities and the private sector in developing solutions.

Key lessons learned in strategic and business planning at the Port of New York and New Jersey.

155. Through the evolution of the planning process over the past two decades, the port has learned a number of important lessons which could provide a shortcut to improving the process at other ports. The key has been to make the plan the way of defining priorities, making policy decisions, justifying funding for projects, and measuring progress. In this way, the plan becomes the controlling factor -- a daily guide -- rather than a report which is put on a shelf.

Lesson One - Get Top-level Support

156. There is frequent debate about "top-down" and "bottom-up" planning -- who originates the plan and sets its overall tone. Either process can work, depending on whether the top executive prefers to play an active role in setting the general direction or prefers to review and react to a staff-prepared draft. The approach is flexible, but active support of the process by the top executive is essential if the plan is to be useful as a decision-making tool.

157. Ideally, this executive support takes several forms throughout the life of the plan. Initially, it is the executive's responsibility to define the purpose of the port, in its broadest sense. Deciding, for example, whether the port is primarily a generator of economic activity, or whether its major role is to generate a financial return for its parent, is critical for defining the major efforts and programmes the port will undertake. In the case of the Port of New York and New Jersey, the mission calls for the port to contribute to the region's economy as well as to its parent agency's financial stability. This is not uncommon in a public agency, but it presents goals which can be in conflict, and which require balancing.

158. Once the mission has been determined, staff should define the goals and specific programmes that are required to achieve the mission, and should determine the staffing and financial resources that are needed. While this is appropriately a staff function, it requires the executive to approve the plan and its strategies and, once approved, ensure that these decisions are used to determine work and funding priorities. He or she must ensure that the allocation of staffing and financial resources accurately reflects the business priorities. At the Port of New York and New Jersey, the staffing and structure of individual units is flexible, and staff have been frequently moved from one unit to another, on a temporary basis, to provide additional resources for an effort of critical importance.

159. Equally importantly, the port's senior executive has been able to defend the request for the port's financial resources, based on the programmes and objectives in the business plan. This does not relieve the executive from making difficult choices, particularly in a poor economy. The plan is not an excuse to avoid making budget cuts, if necessary, but rather provides a rational basis for allocating resources in the most cost-effective way.

160. After the plan has been approved and the resources secured, many ports tend to put the plan "on the shelf" where it remains, untouched, until the following year's process begins. Again, the senior executive is responsible for letting staff know that he or she will use the plan to monitor and evaluate performance. Given a human tendency to try to avoid being measured, only the chief executive can ensure that specific individuals are held accountable for the implementation of the plan's goals. The issue of monitoring and implementation is discussed below.

Lesson Two -- Be Specific

161. The strategic plans which the port produced in the 1970s were broad and focused on long-term changes in the international economy. From this information, it was difficult to determine what specific actions the port would need to take over the coming several years, or even what goals the port was seeking to achieve. The plan tended to try to be "all things to all people", avoiding the hard choices on priorities; as a result, its usefulness was limited.

162. Since that time, the plan has developed into one which is specific in several important ways. The port's longer term goals are clearly defined, in a way which enables staff to use them as a guideline for decision-making. Each of these goals is further defined by a series of action steps that are needed to achieve the goal, and each action step is described in detail -- the objective and approach, the timetable, the financial resources that are required to implement it, and the individual responsible for ensuring that the work is accomplished on time and within budget.

163. In some ways, this is the most difficult element of the business plan, as it requires staff to make commitments which are specific enough to allow them to be

measured by the success -- or failure -- of the effort. It is also the point in the process where the port's executive staff is required to make the hard choices -- should funds be allocated to these key efforts, if it means reducing traditional funding levels for other, less important efforts? While the answer may be obvious, from an objective standpoint, the decision to reduce or eliminate funding for a favored project or programme is often difficult to make. Here again, the port's most senior executive must be involved. He or she must ensure that the specific action items are clear, that the measures of success are well-defined, and that sufficient resources, staff and financial, are provided to the effort.

164. The details contained in the plan should follow through in the port's preparation of a budget. the determination of the resources should include staff, operating funds and capital funds. While the tendency in many ports -- and other public and private agencies -- is to prepare each year's budget by making slight changes to the previous year's, a port which intends to emphasize the priority efforts of its business plan must start preparing its annual budget by defining those resources required to implement the plan. Once this is done, the priority of other efforts must be evaluated, so that the port's budget is both on target and reflective of the highest priority work.

165. The same analysis and decision-making is true with staffing, although somewhat more difficult to achieve. In an established organization, where many units have on-going work responsibilities, and staff assigned to them, it may well be appropriate for the port to re-evaluate this on-going work. Assuming that the port staff cannot grow indefinitely, the senior executives must ensure that the staff is working on the high priority items and must direct staff, when appropriate, to eliminate or reduce their efforts on some other projects. Once this is done, and staff clearly understand its responsibilities, these responsibilities should be incorporated into the staffs' performance evaluation, just as the broader performance measures are used to evaluate the port's performance.

Lesson Three -- Make Sure There is Follow-Up

166. This process of evaluating performance on a variety of levels, from the port itself to the individual staff members of the port organization, is an essential aspect of a good business plan -- and the hardest to achieve. Without a monitoring and reporting process, the plan is a meaningless effort which is put on the shelf until the following year's plan must be prepared. There may well be several levels on which performance evaluation is appropriate; the process is flexible, and the key is to ensure that the measures and the frequency of reporting are sufficient to provide the executive staff with the information it requires.

167. For example, at the Port of New York and New Jersey, the performance reporting is accomplished on several levels. First, a quarterly report to the executive director defines the port's progress in terms of key measures such as cargo volumes and financial performance. It also reports on the progress of major capital projects and studies, and highlights critical issues of which the executive director should be aware.

The report includes targets for performance, which vary depending on the item being measured. In many cases they are quantitative, but in others, particularly studies and projects at an early stage, the measure may be more qualitative. In both cases, the report either states that the performance is on target or, if it is not, states what efforts are being taken to improve the performance.

168. A report at this level also addresses those issues in which the executive director takes a particular interest, so that, for example, as customer service and environmental quality have become more visible issues in the maritime industry, measures of the port's performance in these areas have been included in the quarterly report. This report also evaluates the port's performance relative to its competitors, in a process known as "benchmarking". This looks, over time, at the port's performance relative to others in key competitive areas, ranging from cargo volume to terminal capacity, channel depth, rail service and any other major elements that influence a port's competitive standing.

169. On another level, the senior staff of the port receives separate reports concerning the progress on key efforts. These reports are more frequent (monthly rather than quarterly) and more detailed, although their format is similar to the format of the quarterly report. Both are written in a style which is brief and abbreviated, for quick reading, and both highlight critical issues of which the reader should be aware. In each case, on different levels, the purpose of the report is to tell the reader, "This is where we stand; everything is on target, except the following issues of which you should be aware... and this is what we are doing to address the problems..."

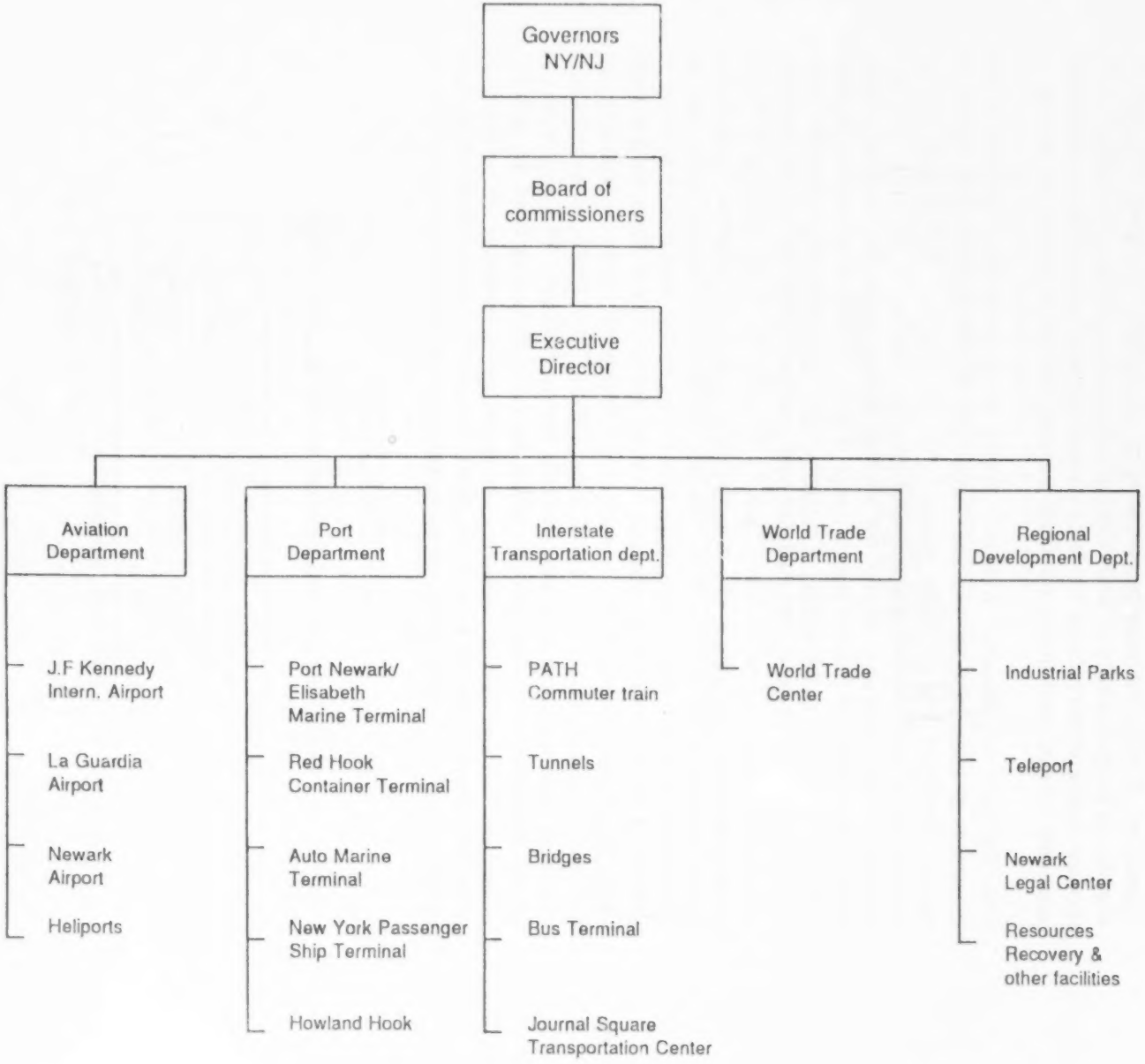
170. Finally, the performance measures are incorporated into the personal performance evaluations of staff. It is important that staff understand that its own performance will be measured according to the progress it makes in accomplishing the port's priority work, and it is equally important that these measures of individual performance standards be adhered to and the port's senior staff be held accountable for the performance measures of the port. Only in this way can the port hope to implement its plan and accomplish its goals.

Conclusion

171. The interrelationship of the three issues addressed above, - senior staff involvement in the plan, from its inception through its implementation; the need for specificity in the plan; and the value of measuring the performance of the port in implementing the plan - should be apparent. Unless the senior executive is committed to the process, the necessary detail is likely to be missing, and the staff will not be held accountable for the implementation. However, without the detail and the follow up, the commitment of the top executive will not be sufficient to implement a useful plan.

172. This process is an easy one to start, but it never reaches an end. After almost twenty years, the Port of New York and New Jersey has made significant improvement in its business planning, resource allocation and performance measurement processes, but the effort is still evolving. So, too, does the strategic plan continue to change. The plan is not a fixed goal, but a "living document" that reflects the industry's environment and changes as the senior executive's view of the role of the port evolves. A perfect plan and a perfect business planning process are both something to strive for, but there is always room for improvement.

PORT AUTHORITY OF NEW YORK & NEW JERSEY
MAIN CORPORATE ACTIVITIES



Case Study for the Port of Singapore Authority

173. The Port of Singapore Authority (PSA) is a somewhat unique combination of a government statutory board with considerable autonomy and a strong commercial orientation. It owns and operates port services and facilities and gives considerable attention to the profitability of its revenue-generating departments. It is subject to the dictates of government policies, but has a commercial set of accounts and considerable autonomy over its investments, corporate planning and, most recently, its pricing.

174. The port was founded in 1819. Owing to its geographic position at the crossroads of trade between Asia and Europe and its natural deep-water harbor, it rapidly developed into a major entrepot for the region. When multinational manufacturing activities shifted to South-East Asia, leading to the boom in trans-shipment cargo, Singapore became the leading port in South-East Asia and today handles more then 200 million tons of cargo (Figure 1), as well as more containers than any other port in the world. Container traffic, including trans-shipment, now accounts for about 82 per cent of total port traffic, excluding mineral oil, but generates over half of the port's total revenue (Table 1). It is also the fastest growing of PSA's cargoes, as shown in Figure 2. The trans-shipment business is supported by extensive feeder services to and from ports in Thailand, Malaysia, Indonesia, India and the Philippines. PSA provides a wide range of services for the maritime community in addition to the cargo-handling terminals. Among the services it offers are free trade zones, passenger cruise facilities, container refurbishing and repair, warehousing and distribution centers, vehicle-receiving facilities, a World Trade Center (Convention and exhibition facilities, cruise terminals) and cold-storage facilities. PSA also invests in private companies providing services within the port. Revenues from the services offered by PSA and from its subsidiary companies and investments are sufficient to cover all property taxes and to fund its capital projects. The strong financial position of the port can be seen in its current financial statement, summarized in Table 2.

Table 1

PSA Revenues and Expenditures for the PSA Group

Source of Revenues	
Container-handling Services	54.0%
Cargo-handling Services	10.0%
Marine Services	12.3%
Commercial Services	11.7%
Sundry Services	12.0%
Sources of Expenditure	
Authority	88.4%
Subsidiaries	11.6%

Figure 1

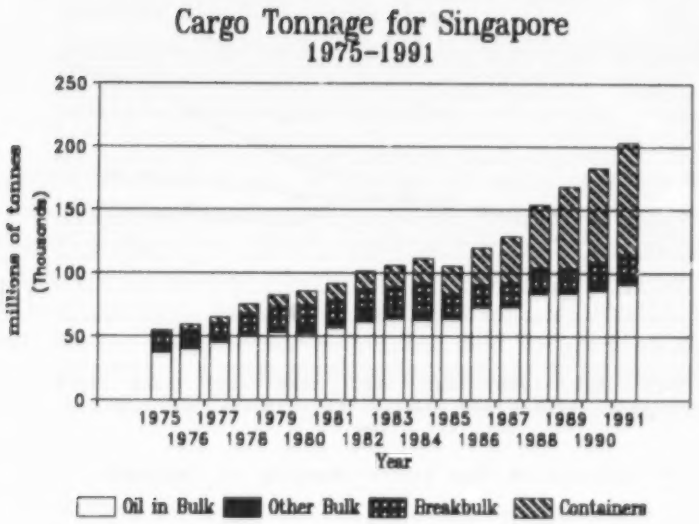


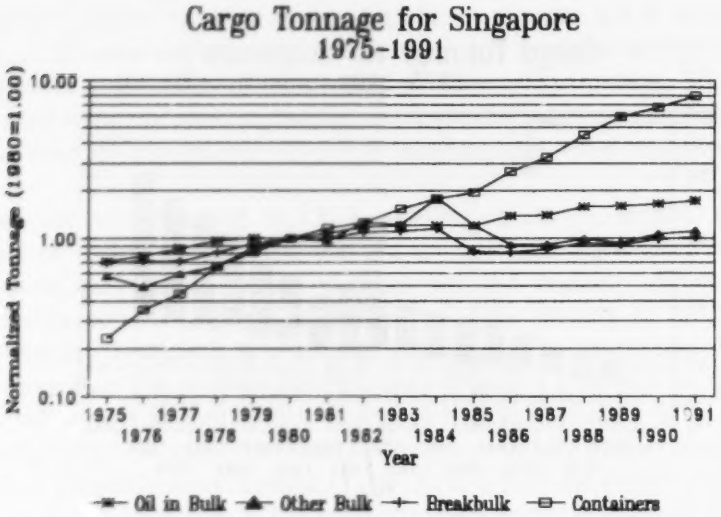
Table 2

Financial Performance of the PSA Group

	1990	1991
Surplus Before Taxation	485.0	604.2
Operating Surplus	375.7	467.2
Return on Assets	14.4%	15.3%
Return on Turnover	37.6%	39.2%
Capital Expenditure	566.2	685.5
Long Term Loans	10.2	5.9
Fixed Deposits	2288.8	2266.0

Source: Calculated from information in the 1991 Annual Report for the Port of Singapore Authority.

Figure 2



175. The PSA's strategies to maintain its competitive advantage have been relatively consistent over the last two decades. In focusing on the container trade in the mid-1960s and subsequently on the transhipment business, the PSA has placed itself in a highly competitive market. While the port has derived considerable natural advantage from its location along a major trade route between Europe and the Pacific Rim, management has chosen to enhance its competitive advantage through cost leadership. At the same time, the port has sought to improve the quality of the services provided even as it lowered their costs. Its ability to finance a massive investment programme out of current revenues is a tribute to its attention to profitability.

176. The PSA has taken a strategic approach to its business planning for a number of decades. As one of the largest port operators, the port plans well ahead to ensure that it will be able to meet the service requirements of its customers in the future. Strategic planning is an important and on-going activity along two basic lines: the development of a five-year corporate plan and the preparation of programmes and proposals for the senior management meetings. Planners include senior management and the heads of departments. The PSA corporate plan is a document outlining the corporate mission, main goals and development plans for the next five years. The more recent plans incorporate a number of more significant quantitative targets concerning performance and service levels.

177. Some of the main functions of the corporate planning activities include :

(a) building of consensus among senior management on the main goals and directions for the PSA;
(b) identifying the major activities to be undertaken by the port; and
(c) setting targets for major activities.

In the corporate planning process, inputs such as capital investments, performance objectives and major targets are collated from the various heads of departments and divisional heads of the PSA. The Research and Statistics Department (Operations Division), provides the necessary supporting information, trade and cargo databases and market intelligence to substantiate the objectives and targets. The Policy and Development Section (Administrative Division) then integrates all the inputs into a single document for discussion with senior management. Normally, port management will perform a mid-term review of the corporate plan and make modifications where required.

178. Once completed, the corporate plan becomes an important reference document for strategic planning activities. It reflects the medium-term expectations of the port and includes basic strategies, objectives and investment plans. It sets measurable, albeit general performance targets. More specific targets and budgets are produced for programmes intended to realize these objectives and implement these strategies. These programmes expand along the directions established through the corporate plan but may vary from the specifics of that plan.

179. Senior management meets regularly to discuss programmes, papers and issues of strategic importance to the PSA. These items are frequently identified at the departmental and divisional levels and brought to the attention of senior management. However, senior management may also take charge of certain issues to be studied in detail. Decisions taken at senior management meetings are then passed on to the relevant divisions and departments to follow up. Divisional heads are responsible for ensuring that these targets are achieved.

180. One of the major sources of data for monitoring the programme are the PSA's financial reports. The PSA prepares an annual budget for recurrent expenditures and a five-year capital budget which is updated annually. Each department is treated as a cost centre for which a monthly income and expense report is prepared. A cash-flow statement is prepared for those departments which generate revenues. The cost centre reports provide the basic mechanism for monitoring the performance of the department and the programmes which they undertake. Budgets presented in the decision papers are used as a reference point against which to compare actual financial performance.

181. The form of strategic planning which has evolved at PSA is consistent with a management style which emphasizes consensus. This style permits a more flexible planning activity by relying on shared values to insure a consistent set of strategies

and programmes. PSA management is very sensitive to conditions in the markets which it serves and its competitive position relative to other ports; it continually monitors market position while improving its organizational capacity through constant training and innovation.

182. Although the region has experienced continuous growth in the volume of trade and port traffic, competition from other ports has been relatively consistent for both regional and international cargoes. New investments in port technology have been defined by the international developments of container-handling technology. The introduction of new services has allowed for more innovation with the port acting as a leader in designing some services and as a rapid assimilator of innovations at other ports. Although the competition both with nearby feeder ports and with regional trans-shipment ports has been intense, the PSA has maintained its position as market leader through a consistent set of strategies emphasizing investment and labour productivity as the means of achieving competitive advantage. The result has been that the corporate plan has not changed dramatically.

183. The only major change has been that brought about by the change in Executive Directors. In the 1970s PSA focused on the expansion of the port and the services provided to shippers. For example, CWT Distribution Pte. Ltd. was established during this period as a subsidiary in order to build up Singapore's container trucking capabilities, establish container depot operations and extend's land-based container operations. A strategy of diversification was introduced which led the PSA into businesses ranging from the provision of housing and the development of the World Trade Center to catering services at the airport. The CWT was diversified and expanded to include intermodal transportation, container storage, repairs and refurbishing, warehousing, local and regional distribution, freight forwarding, customs documentation, port and terminal services. In the 1980s, the PSA focused once again on its core business, although defining it in broad terms regarding service to vessels and their cargo. Earlier acquisitions were not sold off since they continued to be profitable, but no new acquisitions were contemplated outside of the core business. Major investments focused on additional terminal capacity and expansion of the port's Distriparks to serve its trading companies, freight forwarders and land transport companies as well as providing space for warehousing and distribution. During this period, a wholly- owned subsidiary, MAP Services (Pte)Ltd., was formed to provide consultancy services in port planning, management and operations relative to other ports.

184. The mission of the port as presented in its 1989 annual report is "to excel as a global hub and make Singapore a premier maritime center". Its general market goals at that time were summarized as follows:[8]

(a) to remain the world's busiest port in terms of shipping tonnage
(b) to become the world's fourth busiest port in cargo volume
(c) to remain the world's busiest bunkering port
(d) to become a total maritime service center

185. The strategies to be applied were:[9]

(a) to provide quality services at competitive prices
(b) to send regular high-level marketing missions abroad
(c) to help small and medium-sized maritime enterprises such as ship chandlers to modernize and upgrade
(d) to restructure the marine management and control system
(e) to draw up a master maritime plan

General financial policy was to earn a reasonable rate of return to finance growth via competitive pricing and effective cost control. With regards to human resources, a target of an 8 per cent annual increase in labour productivity was set.

186. PSA's consistency in the pursuit of its mission can be seen in its constant striving to attain cost leadership in its core business. In this case, cost leadership refers to the cost to the users. The twin strategies for achieving this status are to provide efficient services, i.e., faster turnaround and minimal delays user and to reduce port operating costs. The first is to be achieved through increasing of investment in equipment and facilities and through a training and supervision programme to boost the efficiency of cargo-handling labour. The second is to be achieved by improving gang productivity and reducing the size of the labour force.

187. The level of investment, which has been self-financed since the 1970s, has risen steadily with the size of the port and currently averages about $S600 million per year ($US360 million). The PSA's most recent major investment was the new container terminal on Pulau Brani Island, with a development cost of $S 1.14 billion ($US684 million). This new terminal was opened for operations at the end of 1991 and when completed will have five main container berths and four feeder berths with 31 gantry

---

[8] Source: Port of Singapore Authority - Annual Report

[9] Ibid.

cranes, of which four are currently double gantry. The total container terminal capacity of 13 million TEUs is expected to be reached within five years. The port is currently adding container berths at the rate of about two per year. When completed in 1994, the three major container terminals will have 15 main berths and 14 feeder berths and will be equipped with some 92 quay cranes. Timing of the introduction of new berths is determined based on studies of terminal capacity and traffic forecasts using the average delays incurred by the port users as an important criterion. In establishing a balance between maximum occupancy levels and average vessel delays, the port has tended to use lower limits than are common in most public operating ports. These investments have significantly reduced labour costs by providing higher throughput and by taking advantage of the economies of scale associated with a large number of berths operating at relatively high levels of utilization.

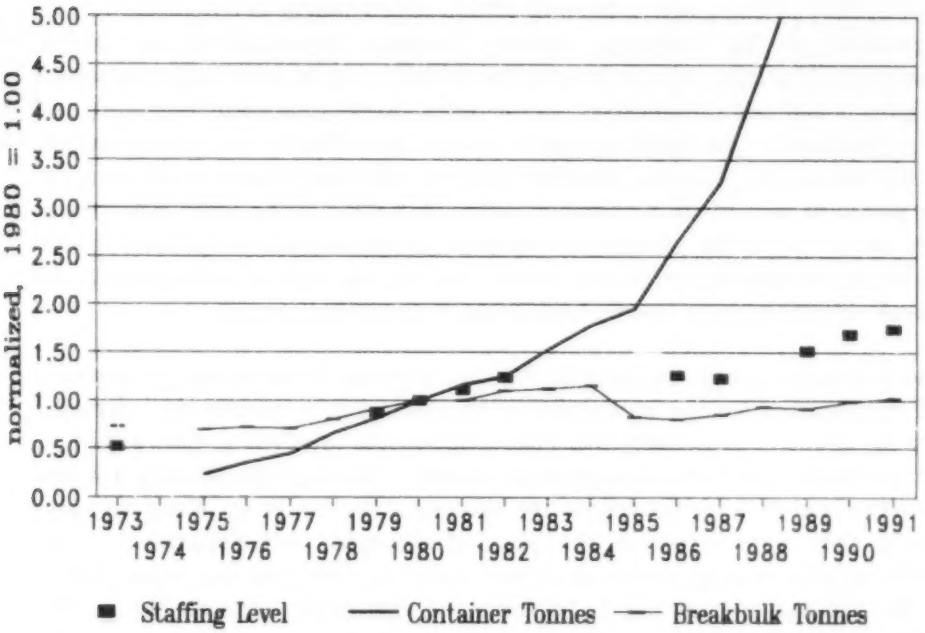
188. The programme for cutting labour costs has been ongoing for the last twenty years. It began with efforts to rationalize the use of cargo-handling labor and reduce gang sizes. This involved alternating periods of decasualization and privatization in which the PSA trained workers in more efficient techniques and then allowed the private sector to hold down the price of this labour. The PSA also emphasized the use of high throughput cranes and yard gantries in order to reduce the labour required for handling containers. In the mid-1980s the port adopted quality circles to achieve additional improvements in productivity. This programme continues and about half the PSA staff currently participate in these circles. In the late 1980s, it focused on the concept of "value-added" as a way of monitoring labour productivity. The improvement in labour productivity over the last four years as measured by value added is shown in Table 3. Most recently, the port has focused on reducing labour through the introduction of higher productivity equipment such as semi-automatic double-hoist container cranes and double-stack yard trailers. The various programmes undertaken in the last two decades have yielded a dramatic reduction in the cargo-handling labour force, from 10,500 a decade ago to less than 7,100 today. This reduction was achieved primarily through natural attrition. During this period, total port traffic grew at a compounded rate of almost 8 per cent while container traffic grew at a rate in excess of 20 per cent as shown in Figure 3. The result was a significant decrease in labour costs.

189. During this same period, the PSA has continually sought to upgrade the quality of its staff through training. This activity focused initially on cargo-handling labour but has been broadened to include all staff. The commitment to training was given added importance in February 1991 with the inauguration of the Singapore Port Institute. The Institute currently offers some 81 management courses, including computer and language courses, some 72 courses in operations ranging from equipment operations to law of the sea, and some 32 engineering courses. The Authority has an annual target of at least 10 days training per employee. The Institute also provides training for staff from other ports where the curriculum has been developed from the lessons learned in Singapore.

Table 3
The Value Added Calculation for PSA Labor
(millions of $US)

	1987	1988	1989	1990	1991
Income for Port Operations	$541.7	$647.3	$757.3	$878.2	$1,053.8
Materials and Services	$43.6	$47.9	$54.1	$68.0	$91.4
Value-Added (Current)	$498.1	$599.4	$703.2	$810.2	$962.4
Value-Added (1985)	$598.9	$726.2	$871.7	$1,005.8	$1,153.5
Value-Added/Employee(1985)	$76,356	$95,724	$116,406	$139,038	$163,270
Value-Added/Employee Cost(M$)	$3.5	$3.9	$4.2	$4.4	$4.8
Distribution to Employees	34.3%	31.3%	29.7%	28.4%	24.9%
Employees	7,694	7,519	7,386	7,115	7,131

Traffic and Staffing Levels for
PSA from 1971 to 1990



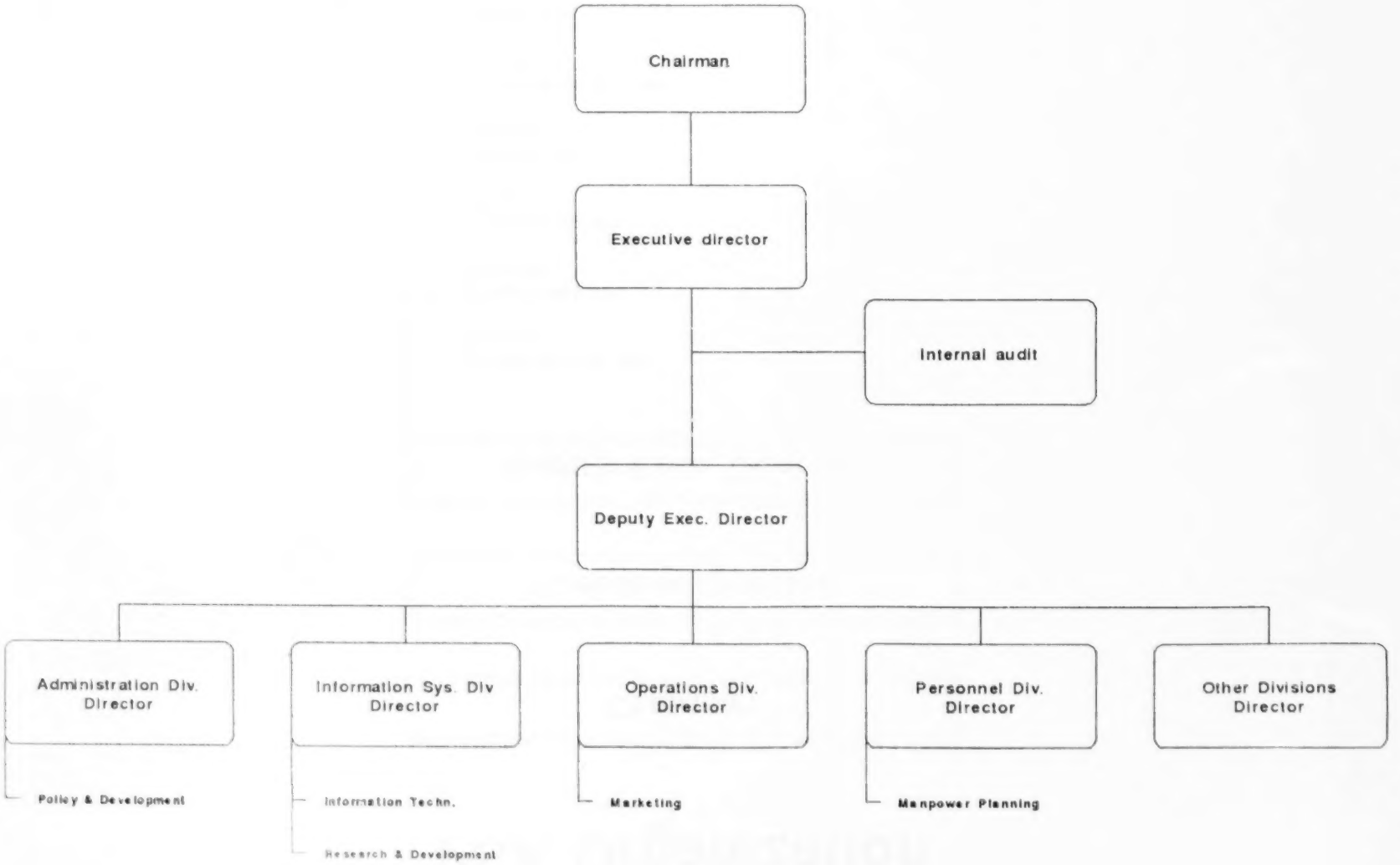
190. The PSA has been pursuing a strategy of improving service through the introduction of advanced user information systems. These include the PORTNET system designed to allow electronic processing of port documents. This system is currently used by 900 port users on a subscription basis and accounts for 70 per cent of the shipping documents. The PSA is now extending its EDI links to other operating ports in order to improve planning as regards the arrival of vessels and cargoes. The Maritime Information System has been developed to provide additional data on customs, shipping lines and freight forwarders. The Computer Integrated Operations System has been developed to provide central control and computer assistance to plan and direct all operational moves in the container terminals.

191. The PSA has also focused on the use of competitive pricing of its services to achieve cost leadership. There has not been a significant tariff increase over the last fifteen years, though adjustments in individual tariffs have been made as required by the competition. The reduction in operating costs per unit of cargo have allowed the port to leave its prices unchanged and to offer selected rebates. Although the authority operates with published tariffs, its principal pricing strategy is to offer rebates and quantity discounts as incentives to improve efficiency and even out peak demands. The port also uses rebates as incentives to improve efficiency.

192. Another strategy which has been in effect since the mid-1980s is to increase the role of the private sector in the activities of the port. This began as a response to government policy promulgated in the mid-1980's which sought to reduce the role of the government in the economy, thereby creating opportunities for private entrepreneurship. The PSA chose to involve the private sector in those activities which were peripheral and labour-intensive. As a result, some equipment operators and equipment operating in the container yards are now provided by the private sector. The recently announced policy to "privatize" the port will likely focus on allowing the investing public to take an equity position rather than transferring other activities to the private sector. Given the commercial nature of the existing authority, there is little to be gained by introducing the private sector. In fact, the style of management and the corporate objectives both benefit from being in the public sector.

193. A new strategy is now evolving in PSA in response to the recent government policy of emphasizing foreign investment as an instrument to sustain the economic growth of the country. It is likely that PSA will become involved in port activities, especially container operations, outside of the country. Although this strategy remains in a formative stage, it would follow the precedent set by Hong Kong terminal operators in their involvement in the ports of Shanghai and Felixstowe. The introduction of this strategy comes at a time when the five-year corporate plan is about to be finalized, so that, if it is implemented, this major strategic change will occur outside of the corporate planning cycle. However, development of this strategy will require lengthy efforts aimed at consensus building. Implementation of the resulting strategy will subsequently follow a gradual path so that by the time the next corporate plan is prepared a multi-decade involvement will be underway.

PSA Organization for Strategic Planning



PSA Organization